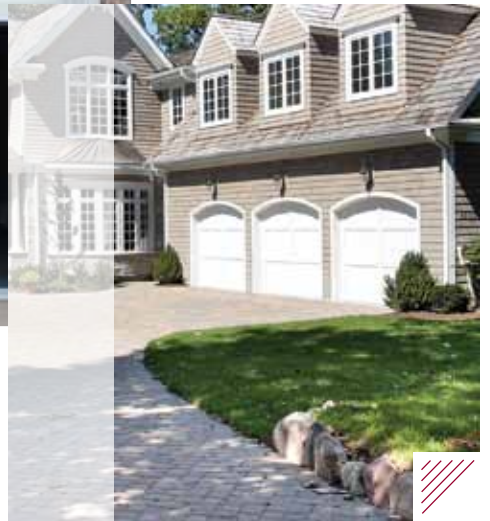
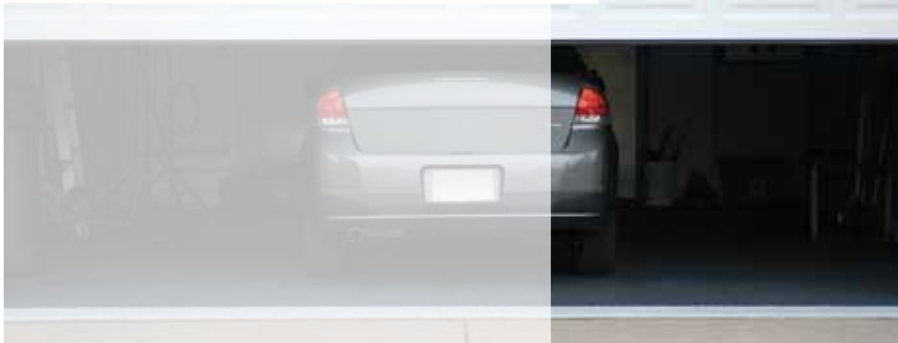


LiftMaster®



residential door operators
spec sheets

LiftMaster®

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Residential automatic garage door operators.
 - 1. Belt drive garage door openers.
 - 2. Screw drive garage door openers.
 - 3. Chain drive garage door openers.
 - 4. Jackshaft garage door openers.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Installation and requirements for blocking and nailers.
- B. Section 16050 - Basic Electrical Materials and Methods: Installation and requirements for electrical connections.

1.3 REFERENCES

- A. Underwriters Laboratories - UL Listed products.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. [Product Data]: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Cleaning methods.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, edge conditions, and accessories.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Schedule delivery of door operator so that spaces are sufficiently complete that door operators can be installed immediately upon delivery.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.6 WARRANTY

- A. Manufacturer's standard limited lifetime warranty against material and manufacturing defects.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: LiftMaster; 845 Larch Ave.; Elmhurst, IL 60126. ASD. Toll Free Tel: 800-282-6225. Fax: 877-361-9589. Email: specs@liftmaster.com. Web: www.liftmaster.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 BELT DRIVE GARAGE DOOR OPENERS

- A. **Belt Drive Garage Door Opener, 1/2 HP:**
 - 1. **Acceptable Product: LiftMaster Premium Series Model 3280.**
 - 2. **Motor:**
 - a. Horsepower: 1/2.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
 - 3. **Drive Mechanism:**
 - a. Drive Means: Belt drive.
 - b. Reduction Means: Gear 16:1.
 - 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
 - 5. **Logic Type: Solid state microcontroller with built-in surge suppressor.**
 - 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
 - 7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
 - 8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
 - 9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5. A (unit indicated)
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
 - 10. **Radio Controls:**
 - a. 3 Door Multi-Function Control Panel: Model 903LM with Security + Anti-Burglary

- Coding; one control allows operation of up to 3 garage doors, turn opener lights on/off from inside the garage and locks out all outside radio signals when occupants are away; automatically rolls over to a new code with every use, up to 100 billion codes.
- b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Lighting System:**
Two 100 watt bulbs with 4.5 minute solid state light delay.
12. **Materials:**
- a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
 - d. Automatic Belt Tensioner: Located on trolley.
13. **Safety Features:**
- a. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - b. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - c. Emergency/Quick Release: Manual release handle in case of power failure.
 - d. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - e. Manual Mode Setting: Allows unlimited manual operation.
 - f. PosiLock: Locks the garage door when down to prevent intrusion.
14. **Optional Features:**
Items listed below are required.
- a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
15. **Warranty:**
- a. Lifetime motor and belt warranty.
 - b. 1-Year, all other parts.
- B. **Belt Drive Garage Door Opener, 3/4 HP:**
- 1. **Acceptable Product: LiftMaster Elite Series Model 3585.**
 - 2. **Motor:**
 - a. Horsepower: 3/4.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
 - 3. **Drive Mechanism:**

- a. Drive Means: Belt drive.
- b. Reduction Means: Gear 16:1.
4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
5. **Logic Type: Solid state microcontroller with built-in surge suppressor.**
6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 6 feet (1829 mm).
10. **Radio Controls:**
 - a. Premium Remote Control: Model 373 W burl walnut 3-button remote control for operation of up to three garage doors with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Smart Control Panel: Displays time, temperature and important system status messages; turns opener lights on/off from inside the garage; turns garage door opener lights on automatically with motion detection; locks out all outside radio signals when occupants are away.
 - c. Coding System: Smart Receiver code button and indicator light.
 - d. Operating Range: Approximately 150 feet (45.7 meters).
 - e. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - f. Battery for Remote Control: 3 volt.
 - g. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Lighting System:**
Two 100 watt bulbs with solid state adjustable light delay from 1.5 to 4.5 minutes.
12. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
13. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is

- interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
 - h. Dual sprocket assembly allows for standard or slow speed door travel to safely operate any type of garage door, including one-piece doors.
14. **Optional Features: Items listed below are required.**
- a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
15. **Warranty:**
- a. Lifetime motor and belt warranty
 - b. 5-Year, all other parts.

C. Belt Drive Door Opener:

1. **Acceptable Product: LiftMaster, Elite Series Model 8550.**
2. **Dimensions:**
 - a. Installed Length: 125 inches (3175 mm).
 - b. Maximum Door Opening: 87 inches (2210 mm).
 - c. Headroom Clearance Required: 2 inches (51 mm).
3. **Security+ 2.0 Radio Controls:**
 - a. Coding System: Smart receiver code button and indicator light.
 - b. 895MAX Premium Remote Control.
 - c. Operating Range: 200 feet (61 m) (approximately).
 - d. Operating Temperature: -40 degrees F to 150 degrees F (40 degrees C to 65.5 degrees C).
 - e. Remote Control Frequency: 315 MHZ / 390 MHZ Dual Band.
 - f. Receiver Frequency: Frequency Agile on 310, 315 and 390 MHZ.
 - g. Security+ 2.0 Anti-Burglary Coding.
4. **MyQ Powered Radio:**
 - a. 902-928 MHz
 - b. 50 Channel FHSS (Frequency Hopping Spread Spectrum)
 - c. Provides two-way communication from garage door opener and MyQ Accessories
 - d. Enables Remote Closing of garage door with key MyQ Accessories
 - e. LiftMaster Internet Gateway Accessory Model 828LM: Enables Monitoring and Control of garage door openers and lighting controls via internet-enabled computer or smartphone
5. **Security+ 2.0 Encrypted Controls: 880LM Smart Control Panel.**
 - a. Timer to close.
 - b. Program remote controls, keypads and MyQ accessories.
 - c. Maintenance alert system.

6. **Convenience / Safety Features:**
 - a. The Protector System safety reversing sensors
 - b. Unattended close operation with select accessories (can't be used with one piece door)
 - c. Hands free work lights on
 - d. Emergency/quick release.
 - e. Automatic trolley reconnect.
 - f. Ventilation /pet opening.
 - g. Down safety reverse.
 - h. Up safety stop.
 - i. Door open/beam obstructed/lights on.
 - j. Maintenance alert system.
 - k. Integrated battery back-up system.
 - l. Posilock secure lock system.
 - m. Slow start soft stop.
7. **Electrical:**
 - a. Voltage: 120V AC, 60Hz.
 - b. Wattage: 524 Total System (including lights).
 - c. Current Rating: 2.7A.
 - d. UL Listings: Yes.
 - e. Length of Line Cord: 6 feet (1829 mm) (3-prong).
 - f. Approximately 1 Watt power in Standby Mode.
 - g. Enhanced CFL (Compact Fluorescent) compatible.
 - h. Logic Type: Solid state microcontroller with built-in surge suppressor.
8. **Lighting:**
 - a. Number of Bulbs: 2.
 - b. Maximum Wattage: 100 x 2.
 - c. Adjustable time, solid-state delay.
 - d. Enhanced CFL (Compact Fluorescent) compatible.
 - e. In Battery Back-Up Mode: Disabled.
9. **Mechanical:**
 - a. Motor: 800 Newtons, 12V DC Motor, 53 RPM.
 - b. **Thermal Protection: Automatic.**
 - c. Lubrication: Permanent.
10. **Drive Mechanism:**
 - a. Drive Means: Full reinforced drive belt.
 - b. Reduction Means: Gear 63:1.
 - c. Door Linkage: Adjustable door arm.
11. **Adjustments:**
 - a. Force: Electronic/Internal Auto Force.
 - b. Limit: Internal electronic.
12. **Travel Rate: (per 190A0806)**
 - a. Approximately 8.5 inches (279 mm) per second (up direction).
 - b. Approximately 6.5 inches (216 mm) per second (down direction).
13. **Materials:**
 - a. Chassis and Chassis Cover: Steel.
 - b. Rail: Solid-Steel T.

- c. Trolley: Steel.
- 14. **Warranty:**
 - a. Lifetime motor warranty.
 - b. Lifetime belt warranty.
 - c. 5-years parts warranty.
- 15.
 - a. 1-year battery warranty (485LM).

2.3 SCREW DRIVE GARAGE DOOR OPENERS

A. Screw Drive Garage Door Opener, 1/3 HP:

1. **Acceptable Product:** LiftMaster Professional Contractor Series Model 3110.
2. **Motor:**
 - a. Horsepower: 1/3.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
3. **Drive Mechanism:**
 - a. Drive Means: Screw.
 - b. Reduction Means: Belt.
 - c. Ventilation/Pet Opening: Allows for variable stop positions.
4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 200 pounds (90.7 kg).
 - b. Factory preset at 100 pounds (45.4 kg).
5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
6. **Dimensions:**
 - a. Installed Length: 120-1/2 inches (3061 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 8 feet 6 inches (2591 mm) with optional rail.
 - c. Travel Rate: Approximately 7.4 inches per second, both up and down speed the same (190.5 mm per second).
 - d. Headroom Clearance Required: 2.3 inches (58.4 mm).
7. **Shipping Weight:**
 - a. Head: 26-3/4 pounds (12.1 kg).
 - b. Rail, Screw: 15-1/4 pounds (7 kg).
8. **Adjustments:**
 - a. Force: Internal up and down.
 - b. Limit: Internal.
9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
10. **Radio Controls:**
 - a. **Acceptable Product:** 371 LM Standard Remote with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100

- b. billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Lighting System: Two 100 watt bulbs with 4.5 minute solid state light delay.**
12. **Materials:**
- a. Chassis: Steel.
 - b. Rail: Solid aluminum.
 - c. Trolley: Reinforced plastic.
13. **Safety Features:**
- a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
14. **Optional Features: Items listed below are required.**
- a. Wireless Keyless Entry: Model 976LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
15. **Warranty:**
- a. 2-Year Motor Warranty.
 - b. 1-Year, all other parts.
- B. Screw Drive Garage Door Opener, 1/2 HP:**
1. **Acceptable Product: LiftMaster Premium Series Model 3240.**
 2. **Motor:**
 - a. Horsepower: 1/2.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
 3. **Drive Mechanism:**
 - a. Drive Means: Screw.
 - b. Reduction Means: Belt.
 4. **Lifting Capacity:**

- a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
- b. Factory preset at 70 pounds (31.8 kg).
5. **Logic Type: Solid state microcontroller with built-in surge suppressor.**
6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
10. **Radio Controls:**
 - a. 3 Door Multi-Function Control Panel: Model 903LM with Security + Anti-Burglary Coding; one control allows operation of up to 3 garage doors, turn opener lights on/off from inside the garage and locks out all outside radio signals when occupants are away; automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Lighting System:** Two 100 watt bulbs with 4.5 minute solid state light delay.
12. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
13. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will

- automatically re-connect at the next door operation.
- f. Manual Mode Setting: Allows unlimited manual operation.
- g. PosiLock: Locks the garage door when down to prevent intrusion.
- 14. **Optional Features: Items listed below are required.**
 - a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
- 15. **Warranty:**
 - a. Lifetime motor warranty
 - b. 1-Year, all other parts.

2.4 CHAIN DRIVE GARAGE DOOR OPENERS

A. Chain Drive Garage Door Opener, 1/3 HP:

1. **Acceptable Product:** LiftMaster Professional Contractor Series Model 1345/46.
2. **Motor:**
 - a. Horsepower: 1/3.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 6 inches (2286 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.

- e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
 - 10. **Radio Controls:**
 - a. Acceptable Product: 371 LM Standard Remote with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
 - 11. **Door Control Button:** Illuminated push button operates door from inside garage.
 - 12. **Lighting System:** One 75 watt bulb with 4.5 minute solid state light delay.
 - 13. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
 - 14. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
 - 15. **Optional Features: Items listed below are required.**
 - a. Wireless Keyless Entry: Model 377LM; allows operation without remote control; allows temporary entry codes.
 - b. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - c. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
 - 16. **Warranty:**
 - a. 2-Year Motor Warranty.
 - b. 1-Year, all other parts.
- B. Chain Drive Garage Door Opener, 1/2 HP:**
- 1. **Acceptable Product:** LiftMaster Professional Contractor Series Model 1355/56.
 - 2. **Motor:**
 - a. Horsepower: 1/2.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - 3. **Drive Mechanism:**

- a. Drive Means: Full chain.
- b. Reduction Means: Gear 16:1.
4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 240 pounds (109 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
10. **Radio Controls:**
 - a. Acceptable Product: 371 LM Standard Remote with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Door Control Button:** Illuminated push button operates door from inside garage.
12. **Lighting System:** One 75 watt bulb with 4.5 minute solid state light delay.
13. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
14. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.

- d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
15. **Optional Features: Items listed below are required.**
- a. Wireless Keyless Entry: Model 377LM; allows operation without remote control; allows temporary entry codes.
 - b. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - c. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
16. **Warranty:**
- a. 4-Year Motor Warranty.
 - b. 1-Year, all other parts.
- C. Chain Drive Garage Door Opener, 1/3 HP:**
- 1. **Acceptable Product: LiftMaster Professional Contractor Series Model 3245.**
 - 2. **Motor:**
 - a. Horsepower: 1/3.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - 3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
 - 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
 - 5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
 - 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
 - 7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
 - 8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
 - 9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).

10. **Radio Controls:**
 - a. Acceptable Product: 371 LM Standard Remote with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
 11. **Multi-Function Control Panel:** Controls garage door, turns opener lights on/off from inside garage, and locks out all outside radio signals when occupants are away.
 12. **Lighting System:** One 100 watt bulb with 4.5 minute solid state light delay.
 13. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
 14. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
 15. **Optional Features: Items listed below are required.**
 - a. Wireless Keyless Entry: Model 976LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
 - e. 2 and 3 Door Multi-Function Control Panel: Model 902LM/903LM; one control allows operation of up to 3 garage doors, turn opener lights on/off from inside the garage and locks out all outside radio signals when occupants are away.
 16. **Warranty:**
 - a. 4-Year Motor Warranty.
 - b. 1-Year, all other parts.
- D. Chain Drive Garage Door Opener, 1/2 HP:**
1. **Acceptable Product:** LiftMaster Professional Contractor Series Model 3255.
 2. **Motor:**
 - a. Horsepower: 1/2.

- b. RPM: 1,625.
- c. Thermal Protection: Automatic.
- d. Lubrication: Permanent.
- 3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
- 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
- 5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
- 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
- 7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
- 8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
- 9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
- 10. **Radio Controls:**
 - a. Acceptable Product: 371 LM Standard Remote with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
- 11. **Lighting System:** One 100 watt bulb with 4.5 minute solid state light delay.
- 12. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
- 13. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times. Up

- b. Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - b. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - c. Emergency/Quick Release: Manual release handle in case of power failure.
 - d. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - e. Manual Mode Setting: Allows unlimited manual operation.
 - f. PosiLock: Locks the garage door when down to prevent intrusion.
14. **Optional Features: Items listed below are required.**
- a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
 - e. 2 and 3 Door Multi-Function Control Panel: Model 902LM/903LM; one control allows operation of up to 3 garage doors, turn opener lights on/off from inside the garage and locks out all outside radio signals when occupants are away.
15. **Warranty:**
- a. 4-Year Motor Warranty.
 - b. 1-Year, all other parts.
- E. Chain Drive Garage Door Opener, 1/2 HP:**
1. **Acceptable Product: LiftMaster Premium Series Model 3265.**
 2. **Motor:**
 - a. Horsepower: 1/2.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
 5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
 7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
 8. **Adjustments:**
 - a. Force: Independent external up and down.

- b. Limit: External.
- 9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 4 feet (1219 mm).
- 10. **Radio Controls:**
 - a. 3 Door Multi-Function Control Panel: Model 903LM with Security + Anti-Burglary Coding; one control allows operation of up to 3 garage doors, turn opener lights on/off from inside the garage and locks out all outside radio signals when occupants are away; automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Coding System: Smart Receiver code button and indicator light.
 - c. Operating Range: Approximately 150 feet (45.7 meters).
 - d. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - e. Battery for Remote Control: 3 volt.
 - f. Frequency: 315 MHz with ERT protection from outside radio signal interference.
- 11. **Lighting System:** Two 100 watt bulbs with 4.5 minute solid state light delay.
- 12. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
- 13. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
- 14. **Optional Features: Items listed below are required.**
 - a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
- 15. **Warranty:**
 - a. Lifetime motor warranty
 - b. 1-Year, all other parts.

- F. Chain Drive Garage Door Opener, 3/4 HP: For heavy custom garage doors.**
1. **Acceptable Product:** LiftMaster Elite Series Model 3575.
 2. **Motor:**
 - a. Horsepower: 3/4.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
 3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
 5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).
 - b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
 7. **Shipping Weight:**
 - a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
 8. **Adjustments:**
 - a. Force: Independent external up and down.
 - b. Limit: External.
 9. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 6 feet (1829 mm).
 10. **Radio Controls:**
 - a. Premium Remote Control: Model 373 W burlwood 3-button remote control for operation of up to three garage doors with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Smart Control Panel: Displays time, temperature and important system status messages; turns opener lights on/off from inside the garage; turns garage door opener lights on automatically with motion detection; locks out all outside radio signals when occupants are away.
 - c. Coding System: Smart Receiver code button and indicator light.
 - d. Operating Range: Approximately 150 feet (45.7 meters).
 - e. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - f. Battery for Remote Control: 3 volt.
 - g. Frequency: 315 MHz with ERT protection from outside radio signal interference.

11. **Lighting System:** Two 100 watt bulbs with solid state adjustable light delay from 1.5 to 4.5 minutes.
 12. **Materials:**
 - a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
 13. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.
 - g. PosiLock: Locks the garage door when down to prevent intrusion.
 14. **Optional Features: Items listed below are required.**
 - a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Motion Detecting Control Panel: Smart Control Panel Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
 15. **Warranty:**
 - a. Lifetime motor warranty
 - b. 5-Year, all other parts.
- G. Chain Drive Garage Door Opener, 3/4 HP: For heavy carriage house doors and custom doors.**
1. **Acceptable Product: LiftMaster Elite Series Model 3595.**
 2. **Motor:**
 - a. Horsepower: 3/4.
 - b. RPM: 1,625.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
 - e. Motor Vibration Isolation System: Buffers motor noise.
 3. **Drive Mechanism:**
 - a. Drive Means: Full chain.
 - b. Reduction Means: Gear 16:1.
 4. **Lifting Capacity:**
 - a. Adjustable: 40 pounds (18 kg) to 180 pounds (81.6 kg).
 - b. Factory preset at 70 pounds (31.8 kg).
 5. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
 6. **Dimensions:**
 - a. Installed Length: 124 inches (3150 mm).

- b. Maximum Door Opening: 7 feet 3 inches (2210 mm); optional opening up to 10 feet (3048 mm) with optional rail.
 - c. Travel Rate: Approximately 7 inches per second (178 mm per second).
 - d. Headroom Clearance Required: 2 inches (50.8 mm).
7. **Shipping Weight:**
- a. Head: 28 pounds (12.7 kg).
 - b. Rail, Full Chain: 17 pounds (7.7 kg).
8. **Adjustments:**
- a. Force: Independent external up and down.
 - b. Limit: External.
9. **Electrical:**
- a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 540.
 - c. Current Rating: 4.5.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 6 feet (1829 mm).
10. **Radio Controls:**
- a. Premium Remote Control: Model 373 W burl walnut 3-button remote control for operation of up to three garage doors with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Smart Control Panel: Displays time, temperature and important system status messages; turns opener lights on/off from inside the garage; turns garage door opener lights on automatically with motion detection; locks out all outside radio signals when occupants are away.
 - c. Coding System: Smart Receiver code button and indicator light.
 - d. Operating Range: Approximately 150 feet (45.7 meters).
 - e. Operating Temperature: Minus 40 to 150 degrees F (Minus 40 to 65.6 degrees Celsius).
 - f. Battery for Remote Control: 3 volt.
 - g. Frequency: 315 MHz with ERT protection from outside radio signal interference.
11. **Lighting System:** Two 100 watt bulbs with solid state adjustable light delay from 1.5 to 4.5 minutes.
12. **Materials:**
- a. Chassis: Steel.
 - b. Rail: Solid steel T.
 - c. Trolley: Steel.
13. **Safety Features:**
- a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.
 - b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Automatic Trolley Reconnect: With trolley release arm engaged, trolley will automatically re-connect at the next door operation.
 - f. Manual Mode Setting: Allows unlimited manual operation.

- g. PosiLock: Locks the garage door when down to prevent intrusion.
 - h. Dual sprocket assembly allows for standard or slow speed door travel to safely operate any type of garage door, including one-piece doors.
14. **Optional Features: Items listed below are required.**
- a. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - b. Garage Door Monitor: Model 915LM; remote monitor indicates door position.
 - c. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
15. **Warranty:**
- a. Lifetime motor warranty.
 - b. 5-Year, all other parts.
- H. Chain Drive Opener, 3/4 HP:**
1. **Acceptable Product: LiftMaster Elite Series Model 8360.**
 2. **Dimensions:**
 - a. Installed Length: 128"
 - b. Maximum Door Opening: 7' 3"
 - c. Headroom Clearance Required: 2"
 3. **Security+@2.0 Radio Controls**
 - a. Coding System: Smart Receiver Code Button and Indicator Light
 - b. 893LM 3 Button Remote Control
 - c. Operating Range: 200' (approximately)
 - d. Operating Temperature: -40°F to 150°F
 - e. Remote Control Frequency: 310, 315 and 390 MHz Tri-Band
 - f. Receiver Frequency: Frequency Agile on 310, 315 and 390 MHz
 - g. Security+@2.0 Anti-Burglary Coding
 4. **MyQ Powered Radio:**
 - a. 902-928 MHz
 - b. 50 Channel FHSS (Frequency Hopping Spread Spectrum)
 - c. Provides two-way communication from garage door opener and MyQ Accessories
 - d. Enables Remote Closing of garage door with key MyQ Accessories
 - e. LiftMaster Internet Gateway Accessory Model 828LM: Enables Monitoring and Control of garage door openers and lighting controls via internet-enabled computer or smartphone.
 5. **Security+ 2.0 Encrypted Controls: 886LM Motion-Detecting Control Panel**
 - a. Program remote controls.
 - b. Maintenance alert system.
 6. **Convenience / Safety Features:**
 - a. The Protector System safety reversing sensors.
 - b. Unattended close operation with select accessories.
 - c. Hands free work lights on.
 - d. Emergency/quick release.
 - e. Automatic trolley reconnect.
 - f. Ventilation /pet opening.
 - g. Down safety reverse.
 - h. Up safety stop.
 - i. Door open/beam obstructed/lights on.

- j. Maintenance alert system.
 - k. Integrated battery back-up system.
 - l. Posilock secure lock system.
 - m. Slow start soft stop.
7. **Electrical:**
- a. Voltage: 120V AC, 60Hz.
 - b. Wattage: 524 Total System (including lights).
 - c. Current Rating: 2.7A.
 - d. UL Listings: Yes.
 - e. Length of Line Cord: 4 feet (1219 mm) (3-prong).
 - f. Approximately 1 Watt power in Standby Mode. (at down limit-worklights off)
 - g. Enhanced CFL (Compact Fluorescent) Compatible.
 - h. Logic Type: Solid State Microcontroller with Built-in Surge Suppressor.
8. **Lighting:**
- a. Number of Bulbs: 2.
 - b. Maximum Wattage: 100 x 2.
 - c. Adjustable Time, Solid-State Delay.
 - d. Enhanced CFL (Compact Fluorescent) Compatible.
 - e. In Battery Back-Up Mode: Disabled.
9. **Mechanical:**
- a. Motor: 800 Newtons, 12V DC Motor. 53 RPM.
 - b. Thermal Protection: Automatic.
 - c. Lubrication: Permanent.
10. **Drive Mechanism:**
- a. Drive Means: Full chain.
 - b. Reduction Means: Gear 63:1.
 - c. Door Linkage: Adjustable door arm.
11. **Adjustments:**
- a. Force: Electronic/Internal Auto Force.
 - b. Limit: Internal electronic.
12. **Travel Rate:**
- a. Approximately 8.5 inches (216 mm) per second (up direction).
 - b. Approximately 6.5 inches (165 mm) per second (down direction).
13. **Materials:**
- a. Chassis and Chassis Cover: Steel.
 - b. Rail: Solid-Steel T.
 - c. Trolley: Steel.
14. **Warranty:**
- a. Lifetime motor warranty.
 - b. 1 years parts warranty.
 - c. 1 year battery warranty (485LM).

2.5 JACKSHAFT GARAGE DOOR OPENERS

A. Jackshaft Garage Door Opener:

Direct drive opener for garages with very low, cathedral or obstructed ceilings.

1. **Acceptable Product: LiftMaster Residential Jackshaft Opener, Elite Series Model 3800.**

2. **Motor:**
 - a. 800 Newtons.
 - b. Heavy duty 24V DC motor.
 - c. Thermal Protection: Automatic.
 - d. Lubrication: Permanent.
3. **Drive Mechanism:**
 - a. Drive Means: Internal chain and sprocket.
 - b. Reduction Means: Gear 63:1.
4. **Logic Type:** Solid state microcontroller with built-in surge suppressor.
5. **Dimensions/Lifting Capacity: Sectional doors only.**
 - a. Maximum Door Area: 180 square feet (16.7 sq meters).
 - b. Maximum Door Height: 14 feet (4267 mm)
 - c. Travel Rate: Approximately 7.6 inches per second (193 mm per second).
 - d. Headroom Clearance Required: 3 inches (76 mm) from center of torsion bar.
6. **Shipping Weight:** 31 pounds (14 kg).
7. **Adjustments:**
 - a. Force: Electronic/internal auto force.
 - b. Limit: Internal/electronic.
8. **Electrical:**
 - a. Voltage: 120 volt AC, 60 HZ.
 - b. Wattage: 120.
 - c. Current Rating: 1.0A.
 - d. UL Listed.
 - e. Length of 3-Prong Line Cord: 6 feet (1829 mm).
9. **Radio Controls:**
 - a. Premium Remote Control: Model 373 W burled walnut 3-button remote control for operation of up to three garage doors with Security + Anti-Burglary Coding that automatically rolls over to a new code with every use, up to 100 billion codes.
 - b. Smart Control Panel: Displays time, temperature and important system status messages; turns opener lights on/off from inside the garage; turns garage door opener lights on automatically with motion detection; locks out all outside radio signals when occupants are away.
 - c. Coding System: Smart Receiver code button and indicator light.
 - d. Operating Range: Approximately 150 feet (45.7 meters).
 - e. Operating Temperature: Minus 30 to 150 degrees F (Minus 34.4 to 65.6 degrees Celsius).
 - f. Battery for Remote Control: 3 volt lithium.
 - g. Frequency: 315 MHz with ERT protection from outside radio signal interference.
10. **Lighting System:** Two 100 watt bulbs with solid state adjustable light delay from 1.5 to 4.5 minutes; can be located on the ceiling anywhere in the garage.
11. **Materials:**
 - a. Chassis: Steel.
 - b. Cover: Plastic.
12. **Safety Features:**
 - a. The Protector System: Projects an invisible light beam across the garage door opening and automatically reverses the door to full open position if beam is interrupted while door is going down and opener lights will flash 10 times.

- b. Up Safety Stop: As door is opening, door stops if it encounters an obstruction.
 - c. Door Open/Beam Broken/Lights On: Incandescent light turns on when sensor beam is broken.
 - d. Emergency/Quick Release: Manual release handle in case of power failure.
 - e. Power Lock: Locks door with a power lock similar to a deadbolt.
 - f. Cable Tension Monitor: Maintains accurate tension and eliminates cable throw.
13. **Optional Features: Items listed below are required.**
- a. EverCharge Battery Backup System: Allows operation of opener for 20 full cycles within a 24 hour period when main power is out; remote light remains off; audible signal shall alert the use of battery backup, Model 475LM.
 - b. Wireless Keyless Entry: Model 377LM; allows operation with remote control; allows temporary entry codes.
 - c. Motion Detecting Control Panel: Model 98LM; turns garage door opener lights on automatically with motion detection.
 - d. Laser Garage Parking Assistant: Model 975LM; laser projects onto car dashboard to indicate correct parking position.
14. **Warranty:**
- a. 5-year parts warranty.
 - b. 1-year warranty on EverCharge™ Battery Backup System, Model 475LM.

EXECUTION

2.6 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2.7 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

2.8 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

2.9 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

notes

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