



# NEWARK FIRE DEPARTMENT

## FIRE PREVENTION

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Newark Fire Department  
75 South 4th Street  
Newark, Ohio 43055  
[www.newarkohiofire.org](http://www.newarkohiofire.org)

(740)670-7653  
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(740) 670-7650

Enclosed are common fire service requirements that are missed or left out in plan development or review. These are requirements that reference specific sections and appendices of the 2017 Ohio Fire Code. The addition of these requirements into the plan development process will assure safety of all the occupants and structures within the City of Newark.

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## **FIRE-FLOW REQUIRMENTS FOR BUILDINGS**

The procedure for determining fire-flow requirements for buildings shall be in accordance with 2017 State of Ohio Fire Code(OFC) and Table B105.1

Portions of buildings separated by fire walls without openings and constructed in accordance with the Ohio Building Code (OBC), are allowed to be considered as separate fire flow calculation areas.

## **FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

Fire hydrants shall be provided in accordance with Appendix C of the OFC, Table C105.1 and 2010 Edition of NFPA 24.

Fire hydrants shall be of an approved type and have not less than a 6 inch diameter connection with the main.

The height of the hydrant shall comply with sections A.7.3.1(a) and (b) of NFPA 24.

A 3 foot clear space shall be maintained around the circumference of the hydrant.

Private hydrants shall meet the same requirements as the public hydrants.

## **VEHICLE IMPACT PROTECTION**

When a fire hydrant or automatic sprinkler system riser is subject to impact by a vehicle, guard post or other approved means of protection shall comply with paragraph (L) (312) of the OFC:

- A. Constructed of steel not less than 4 inches in diameter and filled with concrete
- B. Spaced not more than 4 feet between posts on center
- C. Set not less than 3 feet deep in a concrete footing of not less than 15 inches in diameter
- D. Set with the top of post not less than 3 feet above ground
- E. Located not less than 3 feet from protected object.

Other barriers shall be a minimum 36 inches in height and shall resist a force of 12,000 pounds of force applied 36 inches above ground.



Bollard Example

## **FIRE APPARATUS ACCESS ROADS**

Fire apparatus access roads shall be in accordance with Appendix D of the OFC. These requirements shall pertain to both public and private roadways.

Apparatus access roads must be capable of supporting fire apparatus weighing 75,000 lbs (34,050kg). Road shall be constructed of asphalt, concrete or other approved driving surface materials.

Turning radius shall be determined by the fire code official. The turning radius performance from the manufacturer of the current largest apparatus is included in this document.

Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders, except for approved security gates.

Fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.

Where a hydrant is located on a fire apparatus access road, the minimum width of the road shall be 26 feet. The grade shall not exceed 10 percent unless otherwise approved by the fire code official.

Commercial building exceeding 30 feet in height or 3 stories shall require 3 separate access roads for each structure. If these buildings exceed 30 feet from the lowest fire department vehicle access, an aerial apparatus access road shall be provided. Overhead utility and power lines shall not be located within roadway. It shall have a minimum unobstructed width of 26 feet in the immediate vicinity of the building more than 30 feet. One required access route shall be located within a minimum of 15 feet maximum of 30 feet from the building and shall be parallel to one entire side of the building.

One and two family residential developments with less than 30 units shall provide one fire apparatus access road. Developments exceeding 30 units shall provide two fire apparatus roads providing access from opposite directions.

## FIRE APPARATUS ACCESS ROADS

Exception: Where there are more than 30 units on a single public or fire apparatus access road and it is equipped with an automatic sprinkler system, access from two directions is not required.

When required by the fire code official, fire apparatus access roads shall be marked with permanent NO PARKING – FIRE LANE signs. The signs shall have a minimum dimension of 12 inches wide by 18 inches high and have red letters white background. Roads 20 to 26 feet wide shall have signs posted on both sides. Roads 26 feet or wider shall have signs posted on one side.



Example sign

When required by the fire code official, fire department access roads shall be striped with yellow paint on the road surface and curbs.



Example of striping

## TEMPORARY ROADWAYS

Temporary roadways for fire department access shall be provided to all construction and demolition sites. Access shall be within 100 feet of a temporary or permanent fire department connection (FDC). Vehicle access shall be provided by temporary or permanent roadways capable of supporting fire apparatus loading under any weather condition and shall be maintained until permanent roadways are available.

## FIRE APPARATUS ACCESS GATES

Gates shall have a minimum width of 20 feet and be of a swinging or sliding type. Construction of the gates shall be of materials to allow operation by one person. The gates shall be maintained and operable at all times and repaired or replaced when defective.

Electronic Gates shall be equipped with a **KNOX BOX 3502 Single switch**.

Gates with a padlock must be capable of having the locks cut with forcible entry tools or equipped with a **KNOX BOX padlock**



Example Key Switch



Example Padlocks



## **KNOX BOX RAPID ENTRY SYSTEM**

The Knox Box Rapid Entry is required by the fire official and the OFC Section 506.

Owners or occupants of all educational, assembly, industrial, commercial, institutional, apartment buildings with common areas, and otherwise, that are equipped with an automatic fire alarm or fire suppression system are required to install a Knox Box. Knox Box shall be a hinged door design and large enough to accommodate all required keys.

The fire code official may require a Knox Box on buildings without automatic fire alarm or fire suppression systems.

The Knox Box shall be installed to the right of the main entrance and 48 inched above the finished grade.



Example Hinged Knox Box

## WATER SUPPLY FOR FIRE PROTECTION

An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible materials arrive.

## PRIVATE FIRE SERVICE MAINS AND FIRE DEPARTMENT CONNECTIONS

Fire service mains shall be installed in accordance with the OBC, OFC, and 2010 Edition of NFPA 24.

The fire department connection (FDC) shall be determined by the fire code official and shall have a 5" Storz connection with a 30 degree down elbow installed on it. A white sign with 6" letters stating FDC shall be installed to identify the FDC.



Example FDC

A fire hydrant must be located within 30 feet of the FDC.

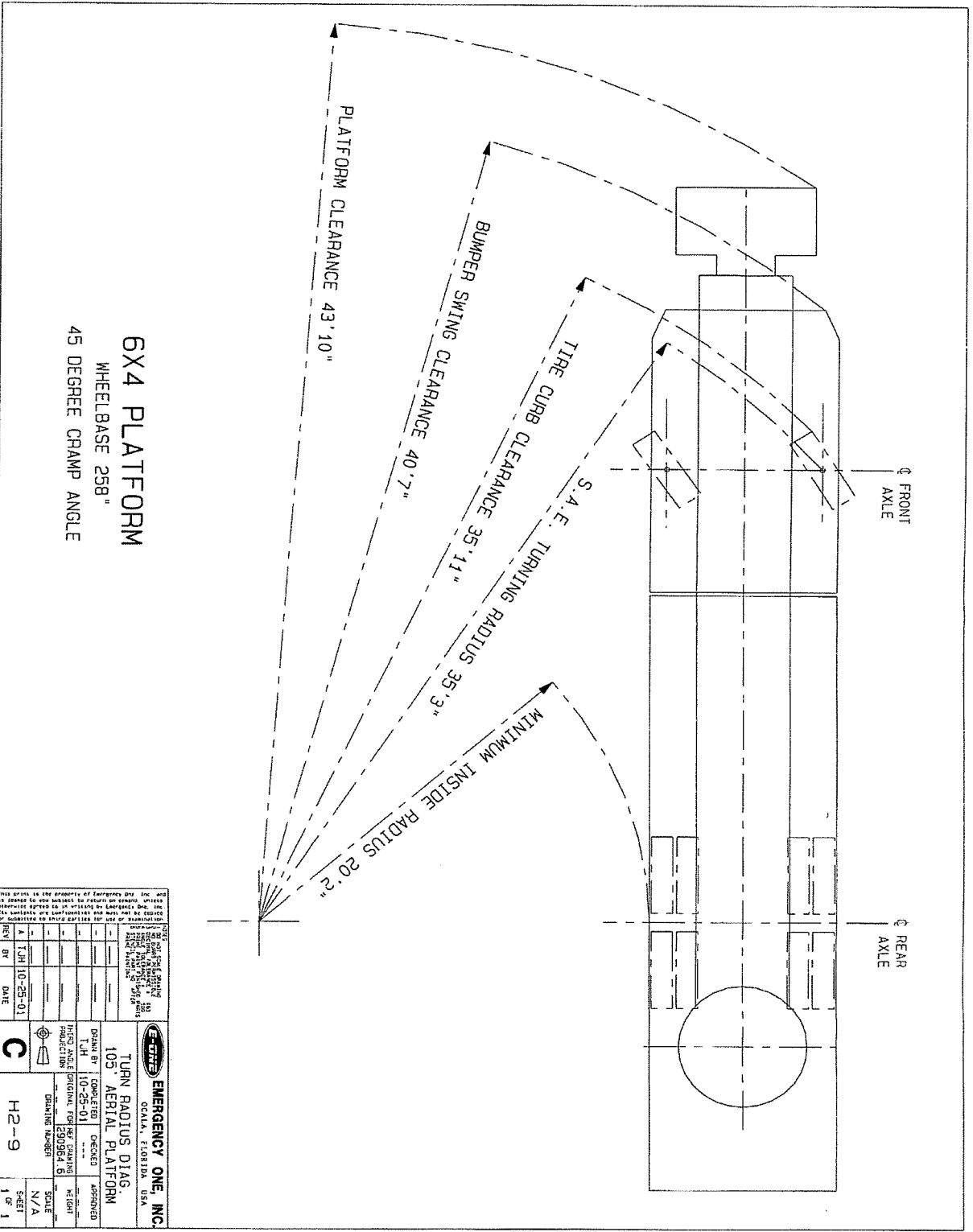
All joints, fittings, and thrust blocks shall be inspected before covering. After installation, rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and thoroughly covered with a bituminous or other acceptable corrosion retarding material.



## **FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION**

During construction and demolition Rule 33 of the OFC must be complied with. This includes but not limited to:

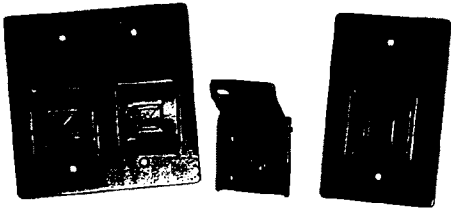
- Smoking is prohibited except in approved areas
- Combustible waste shall not be accumulated within buildings
- Combustible waste and debris shall not be burned unless approved
- Approved vehicle access for firefighting purposes shall be provided on all sites. Access shall be provided to within 100 feet of temporary or permanent fire department connects.
- Portable fire extinguishers shall be provided with not less than one approved fire extinguisher and sized for not less than ordinary hazard as follows: At each stairway on each floor, in every storage and construction shed, and additional extinguishers shall be provided where special hazards exist.
- Welding, cutting, and Hot work are covered by OFC Rule 35



**6X4 PLATFORM**  
 WHEELBASE 258"  
 45 DEGREE CRAMP ANGLE

<b>EMERGENCY ONE, INC.</b> GAITHERSBURG, MARYLAND, USA	
<b>TURN RADIUS DIAG.</b> <b>105' AERIAL PLATFORM</b>	
DRAWN BY T.J.H.	CHECKED ---
DATE 10-25-01	APPROVED ---
INFO. ANGLE 45 DEGREE	WHEELBASE 258"
PRODUCTION 250984.6	SCALE N/A
DRAWING NUMBER H2-9	SHEET 1 OF 1

## For Emergency Override



Gated communities, apartment complexes, parking garages, pedestrian gates and industrial receiving areas are just a few applications of the Knox® electric override key switch. It can be ordered with single or dual key options for fire, EMS and law enforcement access.

### Features and Benefits

- Single or dual key switch
- Fire, EMS or law enforcement identification labels
- One position, two position or momentary switch
- Face plate and lock cover ensure weather resistant operation.

### Electrical Data

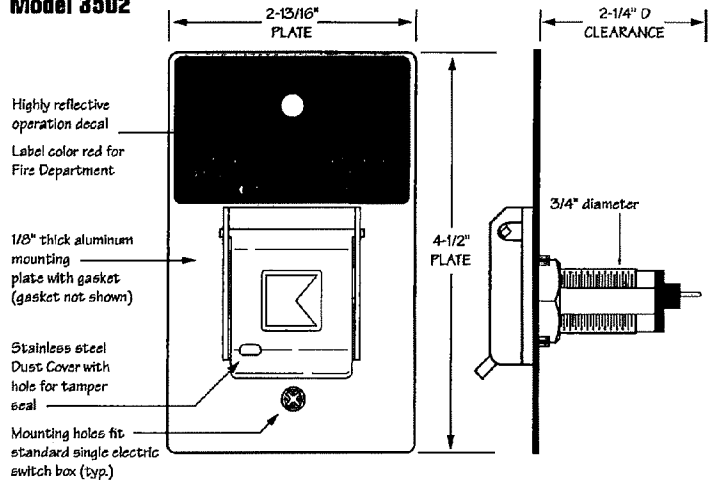
- SWITCH: SPDT or DPDT
- 7 A resistive, 4 A inductive, (sea level), 28 VDC.
- 7 A resistive, 2.5 A inductive, (50,000 ft.), 28 VDC.
- 7 A resistive or inductive, 115 VAC., 60 Hz.
- UL® and CSA listed: 7 A, 250 VAC.
- Temperature tolerance up to +180° F.

#### Knox® Rapid Entry System

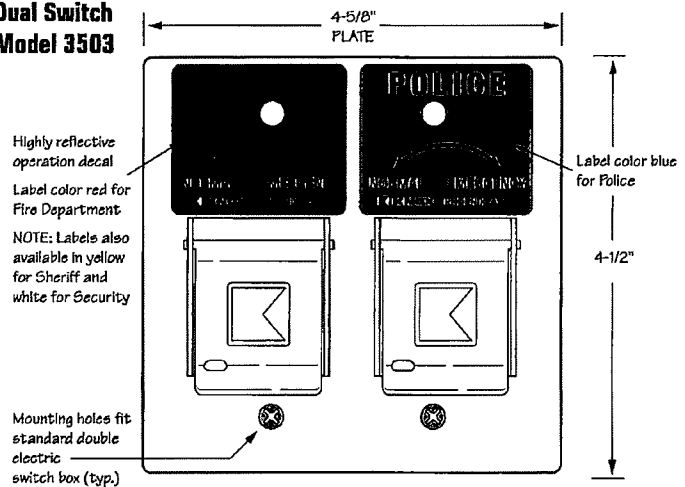
The Knox Company manufactures a complete line of high security products including Knox-Box key boxes, key vaults, cabinets, key switches, padlocks, locking FDC caps, plugs and electronic master key security systems. For more information or technical assistance, please call Customer Service at 1-800-552-5669.



### Single Switch Model 3502



### Dual Switch Model 3503

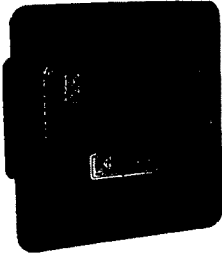


### Ordering Specifications

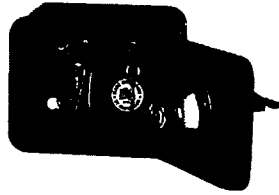
Dimensions: Requires 2 1/4" recessed depth x 3/4" diameter  
 Switch: SPDT or DPDT; 7A resistive, 4A inductive., key removable two position.  
 Mounting: Key switch is designed to be recess mounted.  
 P/N: 3500 Series Knox Key Switch (mfr's cat. ID)  
 Mfr's Name: KNOX COMPANY

### High Security Industrial/Government Key Box

Recessed Mount  
with Face Flange



Surface Mount



The number one high-security KNOX-BOX® is used for most commercial applications including businesses, schools, government and public buildings, community associations and apartment complexes. The 3200 Series KNOX-BOX holds keys, access cards and other small items necessary for emergency access.

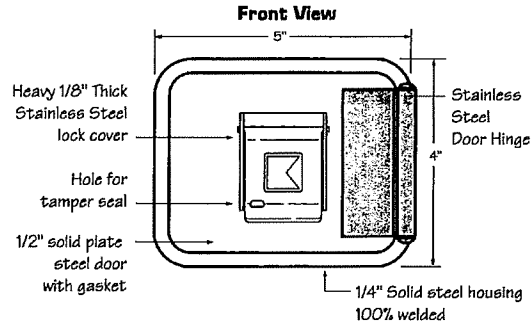
The hinged-door 3200 Series KNOX-BOX is more convenient than the lift-off door version because it allows single-handed operation and opened or closed, it's all one unit.

#### Features and Benefits

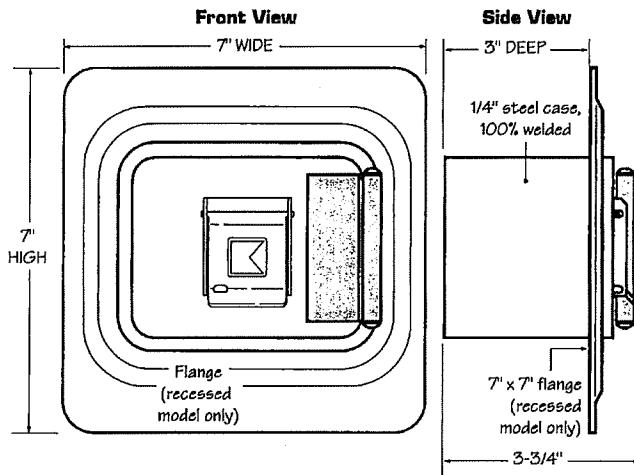
- Holds up to 10 keys and access cards in interior compartment
- Ensures high security. Box and lock are UL® Listed
- Includes a Knox-Coat® proprietary finishing process that protects Knox products up to four times better than standard powder coat
- Resists moist conditions with a weather resistant door gasket
- Hinged door allows single-handed operation
- Colors: Black, Dark Bronze or Aluminum
- Weight: Surface mount - 8 lbs.  
Recessed mount - 9 lbs.

#### Options

- Alarm tamper switches (UL Listed)
- Recessed Mounting Kit (RMK) for recessed models only
- Inside switch for use on electrical doors, gates and other electrical equipment



**3200 Surface Mount**



**3200 Recessed Mount**

#### Ordering Specifications

**To insure procurement and delivery of the 3200 Series KNOX-BOX, it is suggested that the following specification paragraph be used:**

**KNOX-BOX** surface/recessed mount with hinged door, with/without UL Listed tamper switches. 1/4" plate steel housing, 1/2" thick steel door with interior gasket seal and stainless steel door hinge. Box and lock UL Listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability.

Exterior Dimensions: Surface mount body- 4"H x 5"W x 3-3/4"D

Recessed mount flange- 7"H x 7"W

Lock: UL Listed. Double-action rotating tumblers and hardened steel pins accessed by a biased cut key.

Finish: Knox-Coat® proprietary finishing process

Colors: Black, Dark Bronze or Aluminum

P/N: 3200 Series KNOX-BOX (mfr's cat. ID)

Mfr's Name: **KNOX COMPANY**