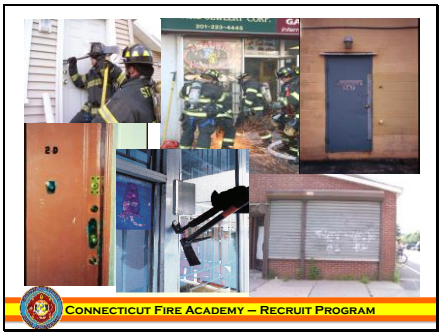
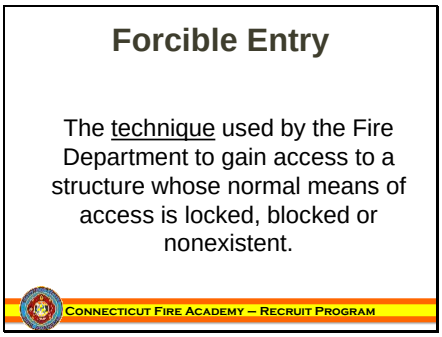
Slide 1

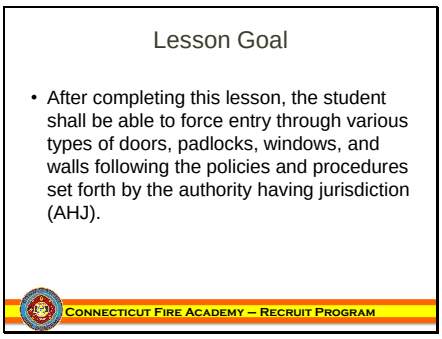
Slide 2



Slide 3



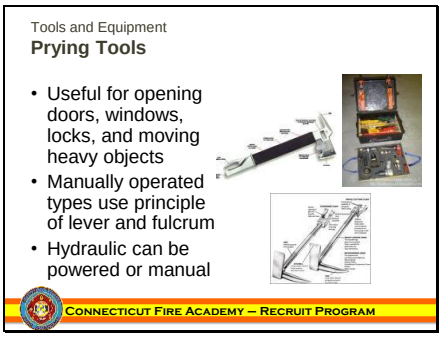
Slide 4



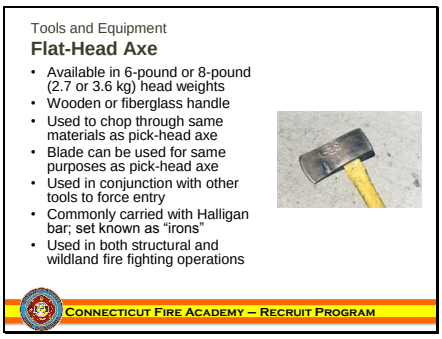
Slide 5

Slide 6

Slide 7



Slide 8



Slide 9

Tools and Equipment
Striking Tools

- Examples
- Sometimes only tool required
- In forcible entry, used with another tool
- Dangerous when improperly used, carried, or maintained

Connecticut Fire Academy – Recruit Program

Slide 10

Tools and Equipment
Metal Cutting Devices

- **Bolt cutters**
  - Used in forcible entry in a variety of ways
  - Advancement in security technology has limited use
- **Rebar cutters**
  - Powered version
  - Manual version
  - Used to cut rebar when breaching concrete
  - Used to cut security bars on windows/doors

Connecticut Fire Academy – Recruit Program

Slide 11

Tools and Equipment
Metal Cutting Devices

- **Handsaws**
  - May be needed when power saw unavailable
  - Include carpenter's handsaw, keyhole saw, hacksaw, drywall saw
  - Extremely slow in comparison to power saws

Connecticut Fire Academy – Recruit Program

Slide 12

Tools and Equipment
Metal Cutting Devices

- **Reciprocating saw**
  - Blade moves in/out similar to handsaw
  - Variety of blades for different materials
  - When equipped with metal-cutting blade, ideal for cutting sheet metal, structural components on vehicles
  - Battery-powered available

Connecticut Fire Academy – Recruit Program

Slide 13

Tools and Equipment
Metal Cutting Devices

- **Power saws**
  - Most useful tools in fire service
  - Types include circular, rotary, reciprocating, chain, ventilation saws
  - Many able to run on AC and DC power
  - Safety issues

Connecticut Fire Academy – Recruit Program

Slide 14

Tools and Equipment
Metal Cutting Devices

- **Oxyacetylene cutting torches**
  - Hand-carried and wheeled units
  - Cut through heavy metal components
  - Generate flame temperature more than 5,700ºF (3 149ºC)
  - Cut through iron, steel with relative ease
  - Use diminishing in fire service

Connecticut Fire Academy – Recruit Program

Slide 15

Tools and Equipment
Metal Cutting Devices

- **Circular saws**
  - Useful when electrical power readily available and heavier, bulkier saws too difficult to handle
  - Small battery-powered units available

Connecticut Fire Academy – Recruit Program

Slide 16

Tools and Equipment
Hydraulic Prying Tools

- Effective in extrication rescues
- Useful in forcible entry situations
- Useful for prying, pushing, pulling
- Rescue tools, hydraulic door opener
  - Hydraulic spreader
  - Hydraulic ram
  - Hydraulic door opener

Connecticut Fire Academy – Recruit Program

Slide 17

Tools and Equipment
Tool Use

- No single forcible entry tool provides a firefighter with needed force/leverage to handle all forcible entry situations
- Firefighters may have to combine two or more tools to accomplish task
- Types of combinations carried vary
- Most important consideration is selecting proper tools for job
- Preincident surveys help determine necessary tools

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 18

Tools and Equipment
Forcible Entry Tool Considerations

- Become familiar with all tools used
- Read/follow manufacturers' guidelines
- Use extreme caution in atmospheres that could be explosive
- Keep tools in properly designated places on apparatus

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 19

Tools and Equipment
Other Power Saw Safety

- Match saw to task and material
- Blades from different manufacturers may look alike but not be interchangeable
- Never force saw beyond design limitations
- Do Not store composite blades in compartment where gasoline fumes accumulate
- Store blades in clean, dry environment
- DO NOT use when working in flammable atmosphere

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 20

Tools and Equipment
Carrying Forcible Entry Tools

- **Striking tools**
  - Keep heads close to ground
  - Maintain firm grip
- **Power tools**
  - Never carry running tool more than 10 feet
  - Transport to where working, start there

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 21

Tools and Equipment
Carrying Forcible Entry Tools

- **Striking & Prying**
  - If not in scabbard, carry with blade away from body
  - With pick-head axe, grasp pick with hand to cover
  - Never carry on shoulder


CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 22

Tools and Equipment
General Care / Maintenance

- Forcible entry tools function as designed when properly maintained
- Tool failure on fireground may have harsh consequences
- Always read manufacturers' recommended maintenance guidelines

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 23

Tools and Equipment
Care/Maintenance of Forcible Entry Tools

- How well maintained directly affects performance
- **DO NOT PAINT**
- Manicured tools are a reflection of Company Pride


CONNECTICUT FIRE ACADEM

Slide 24

Tools and Equipment
Care/Maintenance of Fiberglass Handles

- Wash with mild detergent, rinse, and wipe dry
- Check for damage, cracks
- Check tightness of tool head

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 25

Tools and Equipment
Care/Maintenance of Cutting Edges

- Inspect cutting edge
- Replace cutting heads when required
- File cutting edges by hand
- Sharpen blade as specified in SOP

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 26

Tools and Equipment
Care/Maint. of Unprotected Metal Surfaces

- Keep free of rust
- Oil metal surface lightly
- Do not paint metal surfaces
- Inspect metal for chips, cracks, sharp edges; file off when found

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 27

Tools and Equipment
Care/Maintenance of Power Equipment

- Read, follow manufacturers' instructions
- Be sure battery packs fully charged
- Inspect periodically; ensure will start manually
- Check blades for damage, wear
- Replace damaged, worn blades

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 28

Tools and Equipment
Care/Maintenance of Power Equipment

- Check electrical components for cuts, other damage
- Ensure all guards functional, in place
- Ensure fuel is fresh; mixture may separate, degrade over time

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 29

Door Characteristics
Wooden Swinging Door

- Three types
  - Panel
  - Slab
  - Ledge
- Most are panel or slab

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 30

Door Characteristics
Panel Doors

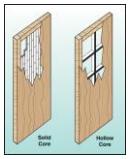
- Made of solid wooden members inset with panels
- Panels may be wood or other materials
- Panels may be held in place by molding that can be removed for quick access

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 31

Door Characteristics
Slab Doors

- Among most common
- Two configurations
  - Solid core
  - Hollow core



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 32

Door Characteristics
Slab Doors

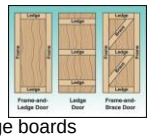
- Most interior doors in newer residences are hollow core
  - Lightweight
  - Relatively inexpensive
- Exterior slab usually solid core
- Most do not have windows, other openings
- Raised panels purely decorative
- Solid-core doors much more substantial, heavier, more expensive than hollow-core

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 33

Door Characteristics
Ledge Doors

- Also known as batten doors
- Found in variety of occupancies
- Planks fastened to horizontal, diagonal ledge boards
- Lock with various locks

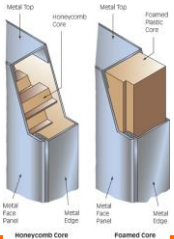


CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 34

Door Characteristics
Metal Swinging Door

- Classifications
  - Hollow metal
  - Metal clad
  - Tubular
- Difficult to force
- Most often set in metal frame

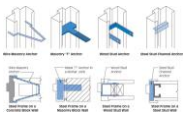


CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 35

Door Characteristics
Metal Swinging Door

- Rigid, resist being penetrated
- When set in metal frame, power tools almost always needed to open
- Construction varies depending on intended use
- When ordered to force, consider power tools



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 36

Door Characteristics
Sliding Doors

- Most residential sliding doors travel left or right
- Those in retail businesses often travel in both directions

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 37

Door Characteristics
Sliding Doors

- Operation
  - Do not actually slide
  - Small roller/guide wheel make easy to move
  - Some are pocket doors
- More common type is assembly used in patio areas of residencies
- Patio sliding doors may be barred or blocked by metal rod

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 38

Door Characteristics
Revolving Doors

- Made up of glass door panels that revolve around center shaft
- Lock in various ways
- All equipped with mechanism that allows locking open in emergency

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 39

Door Characteristics
Overhead Doors

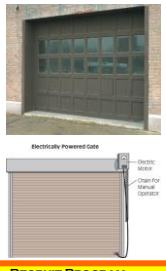
- Wide variety of uses
  - Residential, commercial garage doors
  - Service doors at loading docks
- Constructed of variety of materials
  - Wood
  - Metal
  - Fiberglass

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 40

Door Characteristics
Overhead Doors

- Difficult to force open
- Sectional doors
- Tilt-slab doors
- Roll-up doors
- Telescoping doors



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 41

Door Characteristics
Fire Doors

- Movable assemblies designed to cover doorway openings in rated separation walls in event of fire in one part of building
- Components
- Several standard types
- May be manually, mechanically, electronically operated
- May or may not be counterbalanced

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 42

Door Characteristics
Fire Doors Operations

- Two standard means by which fire doors operate: self-closing and automatic-closing
- Self-closing usually installed in stairway enclosures
- Automatic-closing usually installed in hallways, corridors
- Vertical sliding are normally open but close automatically

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 43

Window Characteristics
Double-Hung (Checkrail) Windows

- Have been popular in building construction
- Various materials
- Made of two sashes
- Usually secured by one or two thumb-operated locking devices

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 44

Window Characteristics
Hinged (Casement) Windows

- Wooden or metal frames
- One or two sashes mounted on side hinges that swing outward when crank assembly operated
- Locking devices vary

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 45

Window Characteristics
Hinged (Casement) Windows

- Can only be opened by operating crank mechanism
- Double casement windows have at least four locking devices as well as two crank devices

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 46

Window Characteristics
Projected (Factory) Windows

- Found in variety of buildings
- Often have metal sashes with wire glass; function by pivoting at top or bottom
- Classified by the way they swing when opened: projected-in, projected-out, pivoted-projected

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 47

Window Characteristics
Projected (Factory) Windows

- Most practical method of forcing is same as casement
- Metal frames, wire glass make rapid forcible entry difficult
- Do not enter unless cannot be avoided
- Often have security bars or screens to discourage entry
- Often cover large area, but moveable window sections small
- Usually located several feet off floor
- If another entry point unavailable, rotary saw can be used to cut window frame

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 48

Window Characteristics
Awning Windows

- Large sections of glass about 1 foot (3 m) high, as long as window width
- Constructed with metal or wood frame around glass
- Hinged along top rail, bottom rail swings out

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 49

Window Characteristics
Jalousie Windows

- Small sections about 4 inches (100 mm) high and as long as window width
- Panes held in moveable frame at ends
- Crank, gear housing at bottom
- Entry requires removal of several panes
- Because relatively small, offer restricted access

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 50

Window Characteristics
Hurricane Windows

- Designed to resist hurricane-force winds
- Use laminated glass with advanced polymer
- Intended to help keep building intact
- Ionoplast layer sandwiched between two layers of glass resulting in laminated glass 100 times as rigid and five times as tear resistant as commonly used high-impact glass
- Identifying during preincident planning helps in tool and technique selection

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 51

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 52

Forcible Entry Concerns

- Different types of structures have varying degrees of access points.
- Buildings with door construction unique to their intended usage.
- A diversified response area will require firefighters to be skilled in several forcible entry techniques.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 53

Forcible Entry Size Up

The first step at any forcible entry operation is the size up. There are 5 major points to consider in developing a good size up.

1. Type of Response (Mission)
2. Method
3. Fire Conditions
4. Door Construction
5. Survey

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 54

Forcible Entry Size Up
Type of Response (OUR MISSION)

The nature of the incident we are responding to will determine how we carry out the forcible entry mission. These responses can be broken down into ***Tactical***, ***Developing***, or ***Routine*** operations.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 55

Type of Response
Tactical Response

- Working fire or other emergency where prompt entry is needed to save life and property.
- Under these circumstances the forcible entry must be quick and reliable.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 56

Type of Response
Developing Situation

Indication of a fire or hazardous situation.

- Light smoke condition
- Food on the stove
- Electrical odor

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 57

Type of Response
Routine Response

- Non fire or emergency operation such as an alarm investigation, water leak, or other non life threatening situation.
- At these types of responses the primary concern is to limit the amount of damage done during entry.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 58

Forcible Entry Size Up
Methods of Forcible Entry

There are 3 basics methods of forcible entry:

- Conventional
- Thru the lock
- Power tools

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 59

Forcible Entry Size Up
Fire Conditions

- Location and extent of fire, and the potential for back draft or flashover will have an effect on the method, timing, and location of F.E.
- Operating above
- Waiting for a line
- Waiting for ventilation

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 60

Forcible Entry Size Up
Door Construction & Locking Devices

- What type of door are we dealing with, wood, glass or steel?
- What types of locking devices are in use, and how many are there?
- What is the best method of F.E. considering the type of door, and the types of locks in place?

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 61

F.L.O.I.T.S.

- Feel the Door for Heat
- Locked?
  - Try before you Pry
- Outward
- Inward
- Tool Selection
- Safety

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 62

Methods and Techniques
Conventional Forcible Entry

The oldest and most reliable method used.

- Involves the use of force, leverage, and impact
- Primary tools are the Irons
- 8lb axe or 10lb maul is recommended

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 63

Methods and Techniques
Convention Forcible Entry

There are several procedures that can be used.

- Prying the door and lock away from the jamb.
- Breaking the lock.
- Forcing the hinges.
- Breaking the door or door panel.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 64

Techniques

The type of door and the locking devices along with the prevailing conditions at the scene, (heat-smoke-visibility) will dictate the proper technique to use.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 65

Door Size Up

What is the door and the frame made of?

- Wood door in wood frame
- Wood door in metal frame
- Metal door in metal frame

Connecticut Fire Academy – Recruit Program

Slide 66

Door Size Up

What type of door is it?

- Inward Swinging
- Outward Singing

Connecticut Fire Academy – Recruit Program

Slide 67

Door Size Up

Identifying the location and types of locks.

- Mortise Locks
- Dead Bolt
- Fox Lock
- Rim Lock
- Police Lock

Connecticut Fire Academy – Recruit Program

Slide 68

Forcing an **INWARD** opening door

Inward opening doors are forced conventionally by using the following steps:

- Shocking the door
- Gapping the door
- Setting the tool
- Forcing the door

Connecticut Fire Academy – Recruit Program

Slide 69

Conventional F.E.

Connecticut Fire Academy – Recruit Program

Slide 70

Shocking the door

- Use Halligan like battering ram to strike the door in the area of the locks.
- This will loosen a very tight door.
- This may also help indicate which locks are engaged.

Connecticut Fire Academy – Recruit Program

Slide 71

Gapping the Door

Creates an opening in the door to allow the tool to enter.

- Place the adz between the door and jamb 6” above or below lock.
- Rock the tool up and down to create a bigger opening.

Connecticut Fire Academy – Recruit Program

Slide 72

Gapping the Door

- Maintain control of the back of adz to prevent tool from slipping.
- Gap door in multiple locations depending on number of locks.
- May result in the door opening

Connecticut Fire Academy – Recruit Program

Slide 73

Setting the Tool

- The forks are driven in to spread the door away from the frame.
- This stresses and compromises the locks.
- Irons F.F. controls the striking of the halligan by saying hit.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 74

Setting the Tool

- Forks are placed bevel towards the door.
- Tool is set 6" above or below locks
- Tool is initially set on 45 degree angle.
- Tool is slowly brought to perpendicular as it is driven in.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 75

Setting the Tool

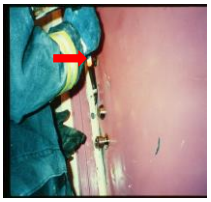
- Tool must be brought past the perpendicular so that forks don't get stuck in the jamb.
- Tool should end up firmly set between the door and jamb to allow for maximum force.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 76

Forcing the Door

- Force is applied to the tool to apply leverage against the door.
- This may require 2 firefighters to work in unison.
- Push in sharply until tool strikes the face of the door.



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 77

Forcing the Door

A door with several good locks or a substantial locking device may not break loose on the first try.

A good Irons Firefighter will have back up plans if this occurs.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 78

Adding Leverage

- An extra push can be obtained by placing the head of the axe between the halligan and the door.
- Once this is in place the halligan can be sharply pushed in.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 79

The War Winner

- If the door does not open using the forks, hold gap with axe and remove halligan from door.
- Place the adz in the gap, tap in with axe if needed.
- Use 2 F.F.'s to push tool towards door.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 80

Controlling the door

- Prevent door from flying open once its forced.
- Use a small piece of rope, hose strap, or halligan
- Protects members of F.E. team & maintains integrity of hallway until line is in place.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 81

Conventional F.E.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 82

Chocking the door

- Once door is forced and room is entered the door must be chocked.
- Use wood or metal chock in hinge.
- Use the axe in the hinge, or in the gap between floor & door.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 83

Baseball Swing

- Used primarily on wood doors in a wood jamb like those found in private dwellings.
- Is quick and reliable for less fortified doors.
- Can be accomplished by one F.F.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 84

Baseball Swing

- Place your hands above the forks grasping the shaft like a baseball bat.
- Swing halligan towards door, driving the pike into the jamb.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 85

Baseball Swing

- Make sure pike is set securely into the jamb.
- Exert downward pressure on tool driving adz into the door.
- Secure door once opened.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 86

Baseball Swing

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 87

Forcing an outward opening door

- Mainly found in commercial settings.
- Usually well fortified doors especially when in the rear of a bldg.
- Door may be recessed making access difficult.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 88

Forcing an outward opening door

First you must verify that the door is outward opening.

- Hinges are visible on an outward opening door.
- Door will be flush with the door frame.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 89

Gapping an outward opening door

- Place the adz 3" above or below the lock, or in between multiple locks.
- Drive the adz in between the door and the frame until it reaches the stop.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 90

Gapping an outward opening door

- On a very tight door you can create an initial gap using the fork end first.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 91

Gapping an outward opening door

- Driving the blade of the axe in just above or below where you want to place the adz, may also start an opening for the adz.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 92

Gapping an outward opening door

- You can also rock the adz up and down as it enters the gap, which spreads the door and allows for easier entry

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 93

Setting the Tool

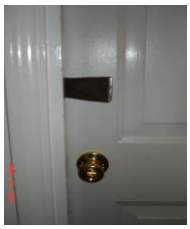
- Pull out slightly on the tool (towards you) so the adz slips past the stop.
- Hold the tool away from the door as the adz is driven in with the axe.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 94

Setting the Tool

- Once the adz is locked around the inside of the door, the tool is set.



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 95

Forcing the Door

- Pull out sharply on the Halligan tool and pry the door open.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 96

Outward Opening

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 97

Through the Lock

- Involves removing the lock cylinder with the proper tools and operating the internal locking mechanism.
- Requires a good working knowledge on the types of locks you may encounter.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 98

Thru-the-Lock

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 99

Thru the Lock

- Generally used on outward opening commercial doors.
- Can be utilized on inward opening doors, as well as residential doors

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 100

Advantages of thru the lock

- Generally causes less damage.
- May result in quicker entry on some locks.
- Allows for the door to be re-locked following operations in many cases.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 101

Slide 102

Types of Locks

Having a good working knowledge of the different types of locks you may encounter will greatly improve your rate of success.

- Mortise lock
- Rim lock/ Police lock
- Tubular dead bolt

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 103

Mortise Lock

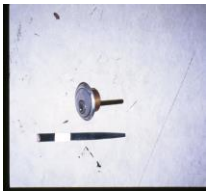
- Uses a mortise cylinder (set into a cavity)
- Has a cam on the rear of the cylinder that moves in a circular fashion.
- Requires cam end of key tool using 5 to 7 principle to force.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 104

Rim Lock

- Uses a rim cylinder
- Has a stem on the rear of the cylinder that moves in a circular motion.
- Requires flat end of key tool or flat screwdriver to force.



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 105

Police Lock

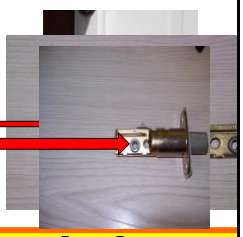
- Type of rim lock (Fox Lock)
- Stem of cylinder is square shaped as opposed to flat.
- Requires the 5/32" Alan key using the screw driver principle.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 106

Tubular Dead Bolt

- An inspection must be made of the cylinder to determine the shape of the hub.
- Hub may be square, flat, half moon, or cross.
- Once the shape of hub is determined insert appropriate end of key tool and turn in either direction until the lock opens.



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 107

Thru the Lock Tools

There is a wide array of tools used in thru the lock.

- The K tool (most widely used)
- The O (officers) tool
- The Rex tool
- Sunila tool
- Modified channel lock

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 108

Pulling the cylinder

- First remove brass rim from cylinder.
- Place K tool or lock puller on top of cylinder and tap down with striking tool.
- Continue until tool is securely set on cylinder.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 109

Pulling the cylinder

- Once K tool or lock puller is set, downward and side to side pressure can be applied.
- Cylinder should begin to pull out from the door.
- Save the cylinder once removed.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 110

Forcing the door using the Key Tools

- Once the cylinder is pulled we must identify the type of lock involved in order to select the proper tool for opening.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 111

5 o'clock 7 o'clock principle

- Insert cam end of key tool pointing to 5 or 7 o'clock.
- Depress deadlock mechanism and slide tool in opposite direction.
- If mechanism is found at 5, move towards 7 and if at 7 move to 5.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 112

Screw driver principle

- Use flat end of key tool or flat screw driver.
- Insert tool into cylinder hole parallel to ground and perpendicular to the door, with flat end pointing at bulls eye.
- Turn key tool either direction as some locks will open turning clockwise and others counter clockwise.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 113

Thru-the-Lock

Slide 114

Power Tools

- Power saw with an aluminum oxide blade.
- oxy-acetylene or mapp gas torch
- battery powered saw-zall

Slide 115

Power Tools

- Allow quick and reliable entry when dealing with heavy security devices.
- Roll down steel gates.
- Heavy duty padlocks.

Slide 116

The F.E. Saw

- A rotary saw equipped with an aluminum oxide blade.
- The most versatile of all power tools.
- Capable of opening most security devices in rapid fashion.

Slide 117

Cutting Locks

- Locks should be attempted first because they are easier to cut, and result in less damage.
- Cut all the locks on the fire bldg. as well as the exposures.

Slide 118

Padlocks

- Most commonly found on roll down gates.
- Made of case hardened steel, which cant be cut with bolt cutters
- High quality locks have toe and heel mechanism requiring both sides of hasp be cut simultaneously.

Slide 119

Cutting Padlocks

- Place lock in a secure position prior to cutting.
- Place disc evenly on both sides of hasp.
- Begin slow, and increase saws R.P.M. as disc cuts into metal.

Slide 120

American Series 2000 Hockey Puck Locks

- More commonly seen at high end stores, or in high crime areas.
- May have a shield covering the entire lock.
- Widely used on commercial utility vans.

Slide 121

Hockey Pucks

- Place disc in center of the lock surface, ¾ of the way up from the key way.
- Start out slow, and increase the R.P.M.'s to full power as a groove forms in the lock.
- When a shield is present cut through it.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 122

Hockey Pucks

- Cutting too low or too high will result in missing the locking pin.
- Depending how the lock was placed, key way may not always be at the bottom.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 123

Cutting Gates

Gates should be cut when one of the following conditions exist:

- Multiple locks requiring an extensive operation.
- No locks visible from outside.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 124

Inverted "V" Cut

- Have charged hose line in place before cutting.
- Start cut in center as high on gate as possible.
- Bring first cut down on an angle toward corner.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 125

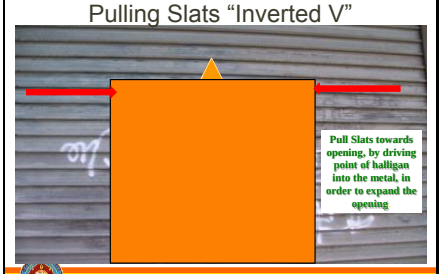
Inverted "V" Cut

- Start 2nd cut on the opposite angle about 1 foot below initial cut, leaving a portion intact.
- Continue down towards the opposite corner.
- Cut remaining tab and pull all remaining slats

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 126

Pulling Slats "Inverted V"



CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 127

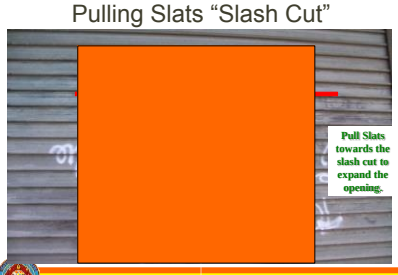
Slash Cut

- To be used on gates 12 feet wide or less.
- Place saw as high in middle of gate as possible.
- Make one cut from top to bottom.
- Pull slats from each side following cut.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

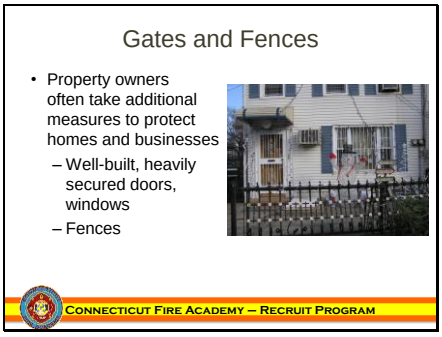
Slide 128

Pulling Slats "Slash Cut"

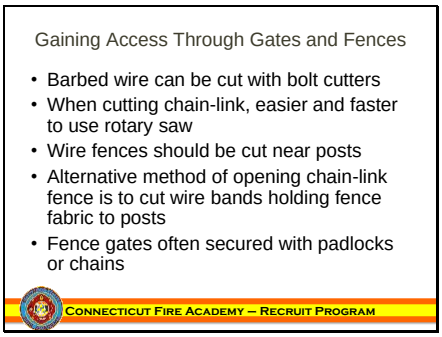


CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

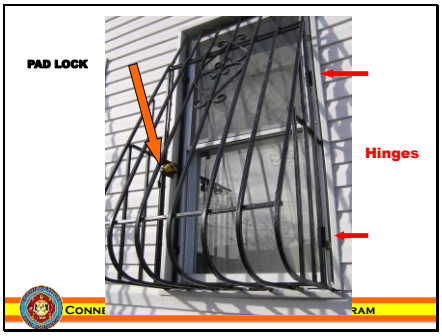
Slide 129



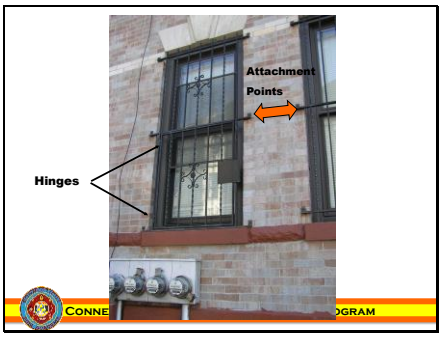
Slide 130



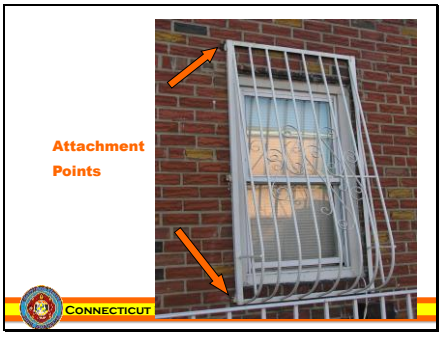
Slide 131



Slide 132



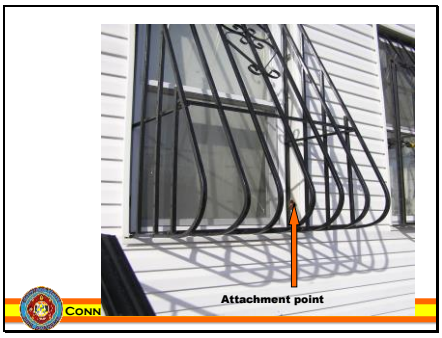
Slide 133



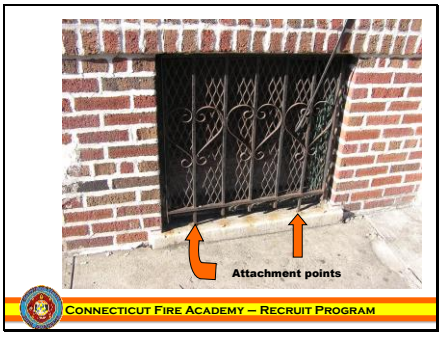
Slide 134

Slide 135

Slide 136



Slide 137



Slide 138

Slide 139

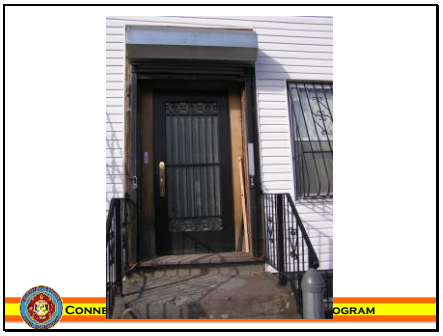
Slide 140

Slide 141

Slide 142

Slide 143

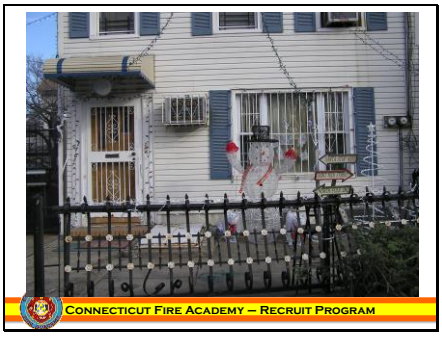
Slide 144



Slide 145

Slide 146

Slide 147



Slide 148

Slide 149

Slide 150

Forcible Entry

Knowledge, experience and the ability to **Keep Your Cool** under pressure are some of the traits the **"Irons Man"** must have. At many operations the forcible entry fire fighter is the **Most Important Member** and must perform his / her duties well under all conditions.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 151

Thank you for your Participation & Attention

Special Thanks to:
F.F. Paul DeBartolomeo
and
Lt. Ed Burwell of F.D.N.Y.
for their assistance and input on this presentation.

CONNECTICUT FIRE ACADEMY – RECRUIT PROGRAM

Slide 152