

San Diego Fire-Rescue Department



Training Division Probationary Firefighter Manipulative Exam Guide

**SAN DIEGO FIRE-RESCUE DEPARTMENT
FIRE ACADEMY STANDARD OPERATING GUIDE**

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DESCRIPTION:			
SCBA			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 2-6	1-3, 1-5, 1-6, 1-8	1:00	SCBA

PERFORMANCE MEASURES:	PASS	FAIL
SCBA Spiel.		
Check cylinder gauge and call out PSI.		
Open cylinder valve fully.		
Acknowledge Vibralert/PAK-Alert.		
Check remote pressure gauge and call out PSI.		
Check that area is clear and announce, "Stand clear, donning BA."		
Place hands through both shoulder straps and swing SCBA overhead.		
Lower SCBA onto shoulders and pull down on shoulder straps to tighten.		
Connect waist belt- weight of cylinder should be carried on hips.		
Remove helmet and place chin in chin pocket of face piece.		
Pull head harness up and tighten straps.		
Perform Fit Check by covering mask opening with hand and inhaling.		
No leakage of air shall be detected, and the face piece shall be drawn slightly to the face.		
Pull Nomex hood up to cover all exposed skin areas from heat.		
Replace helmet on head and tighten chin strap.		
Don gloves over jacket gauntlets.		
Attach regulator and clap hands signifying completion.		
Reference Drill Manual Chapter 6 .		

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DESCRIPTION:			
Conventional Forcible Entry			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 5-10	3-4	N/A	<u>Conventional F/E</u>

PERFORMANCE MEASURES:	PASS	FAIL
Definition of Forcible Entry: The act of entering a building or occupancy via a door, window, or through a wall by the use of force.		
Forcible Entry Considerations: <ol style="list-style-type: none"> 1) What is the urgency? 2) Where is the emergency in relation to the entry point? 3) Can entry be made by conventional methods? 4) What method of forcible entry will be the quickest? 5) What method of forcible entry will cause the least damage? 6) Do conditions indicate the need for ventilation prior to entry? 7) Do conditions indicate the need for a charged hose line prior to entry? 		
Door Size Up: <ol style="list-style-type: none"> 1) Building construction 2) Door and door frame construction 3) Direction of swing 4) Lock mechanisms (location, type, quantity, quality and weakest link). 		
Always try before you pry.		
Gap-> Set-> Force: <ol style="list-style-type: none"> 1) Gap- Place the Adz in between door and frame then cam to create a gap <ol style="list-style-type: none"> a. Gap can be held with a door wedge or axe blade (Gain Saver) 2) Set- Place the Claw into the gap and drive to desired depth by using a striking tool 3) Force- Apply force by pushing or pulling on Halligan Bar. 		
<u>Outward Swinging Door (two-tool):</u> <ol style="list-style-type: none"> 1) Insert the Adz between door/frame and cam down to create a gap 2) Set the Claw until the tips wraps the door 3) Force outward. 		
<u>Inward Swinging Door (two-tool):</u> <ol style="list-style-type: none"> 1) Insert the Adz between door/frame and cam down to create a gap 2) Set the Claw until the tips wrap the frame 3) Force door inward. 		
<u>Inward Swinging Door (one-tool):</u> <ol style="list-style-type: none"> 1) Stick the pick of the Halligan or a pick-headed axe into the wooden jamb with a baseball style swing. 2) Push the tool inward to force the door. 		
Reference <u>Drill Manual</u> Chapter 21.		

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DESCRIPTION:			
Ground Extension Ladders			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 5-8	3-6	N/A	24' GEL

PERFORMANCE MEASURES:	PASS	FAIL
24' GEL Spiel.		
High Shoulder Carry (24') 1) Announce, “no overhead obstructions, preparing for High-Shoulder Carry.” 2) Raise ladder on one spur to find balance point, with bed facing you (bed to head). 3) Place one palm on the lower beam and squat to load the ladder on your palm and shoulder (opposite arm secures top beam). 4) Lift the ladder off the ground horizontally on your palm and shoulder.		
Announce, “no overhead obstruction, raising ladder.”		
Raise ladder by spiking spurs at objective and move to vertical position.		
Up the Fly 1) Announce, “no overhead obstructions, upping the fly.” 2) Lean ladder 2 to 3 degrees past vertical away from you (do not allow ladder to lean towards you). 3) Steady ladder with shin and knee on beam. 4) Pull on halyard using downward motion with forearms facing beam. 5) When fly reaches desired height, ensure locks engage and announce, “locks locked.”		
Lower ladder into building while placing one foot on lowest rung and hands on beams.		
Slide out on butt 1) Grasp beam with one hand and rung with the other. 2) Lift spurs off the ground and move bottom of ladder away from building. 3) Line rung up with roof line when possible.		
Rotate ladder 180 degrees (can be slipped with two-person evolutions).		
Verify and announce, “proper climbing angle (75 degrees).”		
Verify and announce, “four points of contact.”		
Climbing ladder 1) Verify and announce, “partner foot my ladder.” 2) Maintain three points of contact. 3) Grasp rungs with hands (span beams when carrying equipment). 4) Use instep of foot on rungs (not toes). 5) Avoid stepping on rungs above roofline.		
To remove ladder, reverse the process (rotate, slide in on the butt, remove from building, down the fly, lower ladder, High Shoulder Carry).		
*Ladders > 24' require partner to foot ladder.		
Reference Drill Manual Chapter 19.		

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DESCRIPTION:			
Vertical Ventilation Residential			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-3	3-21, 3-12	N/A	Vert Vent Residential

PERFORMANCE MEASURES:	PASS	FAIL
Chain Saw Spiel.		
Describe operating and maintenance procedures for two-stroke equipment (see Drill Manual Chapter 5).		
Describe Size Up Considerations <ol style="list-style-type: none"> 1) Locate fire (highest, hottest point). 2) Identify smoke conditions (volume, density, velocity, color). 3) Identify building construction type and roof construction. 4) Are there any covered exterior walkways or cantilevers to avoid cutting over? 5) Select ladder size and placement. 		
Describe Diagnostic Cuts <ol style="list-style-type: none"> 1) Kerf Cut- blade width puncture through roofing material. <ol style="list-style-type: none"> a. If smoke detected, expand to Smoke Indicator Hole. 2) Smoke Indicator Hole- small (blade width) triangle to monitor smoke conditions. 3) Inspection Hole- triangular cut to expose/identify structural members/orientation. 		
Reference Drill Manual Chapter 20 .		

Firefighter #3- Sounder		
Secure TIC, portable radio and announce, <i>“Training T-1 recruits ready for assignment.”</i>		
Secure SCBA and Roof Hook.		
Remove 28’ GEL from truck safely with partner.		
Select ladder placement/location and give commands.		
Entry procedures (mask up, tag out, click in, glove up).		
Climb ladder safely/efficiently.		
Sound roof for self, sound for crew and TIC (structural members, fire location).		
Signal partner to come up and communicate direction of travel.		
Travel along structural members to desired hole location sounding appropriately.		
Communicate with officer, then louver roof panel and punch through ceiling.		
Verify ventilation effectiveness with officer.		
Descend ladder and prepare for next assignment.		

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Firefighter #4- Cutter		
Exit procedures.		
Secure SCBA and chain saw .		
Remove and place 28' GEL safely with partner.		
Entry procedures (mask up, tag out, click in, glove up).		
Follow partner to desired hole location staying on structural members.		
Perform 5-Step Center Rafter Louver .		
Descend ladder and prepare for next assignment.		

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DESCRIPTION:			
Vertical Ventilation Commercial			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-13	3-12	N/A	N/A

PERFORMANCE MEASURES:	PASS	FAIL
Review Vertical Ventilation Residential		
Method 1		
Perform two separate 4'x4' center rafter louvers next to each other as described in Drill #5		
Method 2		
Perform push cut to locate fire-side rafter.		
Place a long head cut moving away from the fire rolling multiple rafters (approximately 8').		
Insert a downward, or vertical cut, along the inside of the fire-side rafter (#1).		
Working back towards your ladder make a bottom cut, rolling the next rafter (#2) and stop when you contact rafter #3.		
Make another downward or vertical cut on the fire-side of rafter #3, completing a 4x4 Center Rafter Louver.		
Repeat the previous three cuts to add a second 4x4 Center Rafter Louver.		
Bottom, or Louver cut sequence (again) = Roll rafter #2 → stop → down cut inside of rafter #3 → down cut outside of rafter #3 → repeat for multiple louvers.		
Simply stated: "Roll, Stop, Down, Down" then repeat for multiple louvers to achieve desired overall width.		
Sounder to louver the holes starting with fire side and working back towards the ladder after all cuts completed.		
Additional concepts for consideration - expanding an existing hole with/against construction and dicing.		
Reference Drill Manual Chapter 20 .		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
Natural Ventilation/PPV/Scene Lighting			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-2, 3-3, 5-3	3-17, 3-11	N/A	Below

PERFORMANCE MEASURES:	PASS	FAIL
Gas Powered Ramfan, Electric Powered Ramfan, Portable Generator Spiels.		
Describe operating and maintenance procedures for four-stroke equipment (see Drill Manual Chapter 5).		
Secure SCBA.		
Entry procedures (mask up, tag out, click in, glove up).		
Natural Ventilation		
Open all windows and doors following a left/right wall orientation.		
Isolate uncontaminated areas.		
Positive Pressure Ventilation (PPV)		
Coordinate with Fire Attack prior to starting blower.		
Place gasoline powered blower at entrance approximately 10' from door.		
Check air flow at door with ungloved hand feeling for air movement over opening.		
Use one exhaust opening at a time to systematically remove smoke from structure.		
Exhaust opening should be 3/4 size of intake (if practical).		
Scene Lighting		
Start generator.		
Plug lights directly into generator to test.		
Tie connections together to avoid pulling apart.		
Keep extension cords along walls to avoid trip hazards.		
Keep electrical connections elevated out of water (tie off if necessary).		
Consider electric blower to assist smoke channeling (if necessary).		
Reference Drill Manual Chapter 20 .		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
Vehicle Rescue			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FFII- 4	4-1, 4-2	N/A	N/A

PERFORMANCE MEASURES:	PASS	FAIL
Amkus Spiel, R-42 Strut Spiel.		
Describe starting, operating and maintenance procedures for four-stroke equipment (see Drill Manual Chapter 5).		
Identify vehicle anatomy: ABC Posts, Fender Rail, Roof Rail, Transverse Beam, Kicker/Rocker panel, Nader Pin/U-Bolt.		
Stabilize the Scene		
Control/address traffic		
Place cones and flares as needed		
Bring a source of extinguishment/hose line		
Vehicle Size-Up		
Seven-sided approach (perform 360).		
Identify electrical, chemical and other hazards.		
Determine the number of patients and acknowledge them.		
Type of car and location of accident.		
Assess simple extrication: cut steering wheel, move seat back, move pedals.		
Assess need for additional resources.		
Stabilize the Vehicle		
Place transmission in park, turn off ignition and set emergency brake.		
Use step chocks and cribbing at proper contact points (A, B, C posts).		
Remove air from tires.		
Consider Trucker's Hitch or Rescue 42 Struts.		
Locate and secure battery		
Use power as needed prior to disconnecting battery.		
Place hazards on.		
Disconnect the battery, negative (black cable) first.		
Verify hazard lights are off.		
Stabilize the Patient		
Check patient status (ABC's).		
Confirm number of patients (consider ejected patients).		
Follow "5, 10, 20 Rule" for airbag clearance.		
Maintain C-Spine as needed (Ked Sled).		
Cover patient with debris carrier or equivalent.		
Peel and Peek		

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Remove plastic covering with a small pry tool wherever you plan on cutting.		
Identify pressurized cannisters, sensor modules and any hardened metal.		
See Drill Manual Chapter 25.		

Core Vehicle Extrication Operations		
<p>Glass removal: Roll down windows if able. Laminate (windshield): minimize cuts to prevent exposure to dust and consider respiratory protection for self and patient. Axe and Sawzall can be used. Tempered (passenger and rear): use striking tool and protect patient. Polycarbonate: need to cut with reciprocating saw or cutters.</p>		
<p>Door Removal: Create purchase point using Vertical Lift or Door Pinch with spreaders. Pop door at Nader Pin/U-Bolt with spreaders. Cut Door Limiter, hinges and wire harness with cutters.</p>		
<p>Dash Push: Place cribbing under the B-Post Make relief cut on Kicker Panel and on A-post (if roof not removed). Crunch/cut Fender Rail. Place Ram foot at bottom of B Post Place Ram head against A Post above door hinge to engage transverse beam. Extend Ram to push dash forward.</p>		
<p>Dash Lift: Place cribbing under A-Post Make two relief cuts on kicker panel between hinges then grab with spreaders and peel back creating a gap. Relief cut on A-Post (if roof not removed). Crunch/cut Fender Rail. Place spreaders in gap created between hinges. Spread until cribbing under A Post and transverse beam are engaged.</p>		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
Ropes and Knots (Tool Ties)			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-1	3-10A, B	N/A	N/A

PERFORMANCE MEASURES:	PASS	FAIL
Tie a figure eight follow through as an anchor.		
Tie off a pick headed axe (figure eight on a bight, half hitch).		
Tie off a halligan bar (clove hitch, half hitch).		
Tie off a tool box (handcuff knot).		
Tie off a roof hook (bowline on a bight, half hitch).		
Tie off a pike pole (clove hitch, half hitch).		
Tie off chainsaw (bowline on a bight, half hitch).		
Tie off a nozzle with a shutoff butt (clove hitch, two half hitches).		
Tie a running bowline on unstable object.		
Tie a Trucker's Hitch on a bight.		
See Drill Manual Chapter 24.		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
RPM			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-1	3-10A, B	N/A	Below

PERFORMANCE MEASURES:	PASS	FAIL
Ropes and Knots Spiel.		
Construct Tandem Prussik Belay System .		
Operate Tandem Prussik Belay System .		
Construct RPM Rope Rescue System for Rappel/Lower .		
Utilize Wrap Three Pull Two and Three Bight anchors .		
Convert RPM from a Rappel/Lower to a Haul .		
Operate 3:1 Haul System .		
Convert system from a Haul to a Lower .		
Operate lowering system to lower Rescuer and Victim.		
Rebuild a Load Releasing Device .		
See Drill Manual Chapter 24.		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
Personal Escape System			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 4-1	3-10A, B	N/A	PES

PERFORMANCE MEASURES:	PASS	FAIL
PES Spiel.		
System Connection		
Ensure carabiner is attached to rescue belt with PES in right pant pocket.		
Pre-Bailout Considerations (DICE) Determine you're in an emergency. Isolate (close doors and windows). Call a Mayday. Exit.		
Remote Anchor		
Select suitable anchor (wall stud, structural member).		
Remove hook and HALO device from pack and pull slack.		
Wrap the hook around selected anchor point.		
Wrap the escape rope around the gated hitching slot twice and test anchor.		
Pull the handle toward you and move toward the exit while facing your exit.		
Measure to ensure the HALO extends just past the sill.		
Roll out into a window hang to load the system.		
Sill Anchor		
Locate and clear windowsill for PES deployment.		
Pull hook up away from body with both hands.		
Grasp the rope with one hand and cup the hook with your other.		
Position hook straight on sill so it does not move when loaded.		
Maintain tension on the hook with hand, forcing the tip to bite into the structure.		
Punch down with rope until hook is set.		
Descent		
Position body flush against the wall with feet pointed down.		
Extend arm with rope to 2 o'clock position.		
Pull the HALO device downward and descend smoothly.		
Inspection		
Feel rope for dents, bumps, cuts, abrasion over entire length of rope.		
Ensure sewn eye stitches intact and not frayed.		
Test HALO auto-stop function.		
Ensure hook is not deformed and gate operates properly.		
Packing System		

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Zig zag rope into segments the width of the bag.		
Bundle 4-6 flakes at a time, place into bag and repeat.		
Leave about 6 inches of free rope between HALO and hook.		
Slide HALO and hook into bag.		

**SAN DIEGO FIRE-RESCUE DEPARTMENT
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DESCRIPTION:			
Interior Attack			
SFT TOPIC:	SFT SKILL SHEET:	TIME STANDARD:	VIDEO LINK:
FF1A- 5-6	3-3	N/A	Interior Attack

TEST 1A-DRILL #18-1 3/4" INTERIOR ATTACK #3 FF PPE: Full Structure gear and SCBA	PASS	COMMENTS
Exit procedures.		<ul style="list-style-type: none"> • 1:00 from touching hose to calling for water • 5 mins. to knockdown • Proctor directs hit and move • Proctor directs to push • 1 pt. deduction for every 15 sec. over to max of 3 pts.
Secure SCBA.		
Deploy hose to appropriate location utilizing the Flip Method.		
Perform Transitional Attack.		
Entry Procedures (Mask up, click in, tag out, glove up).		
Perform Hit and Move		
Advance hose utilizing Clamp Slide/Comella Crawl.		
Make a Push into fire room.		
Check for extension.		
Conduct primary search off hose line while staying in verbal/visual contact with partner.		
Safely/efficiently conduct rescue		
SAFETY (3) AND MISCELLANEOUS DELAY (1) VIOLATIONS		
1.		
2.		
3. POSSIBLE POINTS:		
4. POINTS RECEIVED:		
POSSIBLE POINTS:		Time:
POINTS RECEIVED:		Proctor:

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TEST 1B-DRILL #18-1 3/4" INTERIOR ATTACK #4 FF PPE: Helmet, Coat, Structure Gloves, SCBA	PASS	COMMENTS
Exit procedures.		<ul style="list-style-type: none"> • 4 L's: Life, Location of fire, Layout of structure, Lift of the smoke • 1 pt. deduction for every 15 sec. over to max of 3 pts.
Secure SCBA.		
Secure irons, box light and TIC.		
Address forcible entry.		
Control flow path.		
Identify 4 L's (Life, Location, Layout, Lift).		
Entry procedures (mask up, click in, tag out, glove up).		
Open door using 3/5 count.		
Moves hose into building appropriately.		
Assist partner making a Push		
Conduct primary search off hose line while staying in verbal/visual contact with partner.		
Assist partner with primary search/victim removal. Oriented on hose line and guiding partner out of IDLH		
Perform appropriate PPNs to Fire Attack		
SAFETY (3) AND MISCELLANEOUS DELAY (1) VIOLATIONS		
1.		
2.		
3.		
4.		
POSSIBLE POINTS:		Time:
POINTS RECEIVED:		Proctor:

Communications for Air Management Policy

Please use the following as a guideline for communications during **ALL INTERIOR** evolutions during the academy as they relate to the SDFD Air Management Policy.

SCBA Bottle reaches 50% capacity

- Have **not** found victim or seat of fire
 - *Notify IC* via radio report and exit immediately
 - Recruit *may* be continued by proctor for sake of drill repetition.
- Located victim and/or seat of fire
 - *Notify PROCTOR* verbally of air status to acknowledge air management policy
 - Continue evolution.

Vibralert Activation

- Have **not** located victim or fire
 - *Notify IC* via radio report and leave immediately
 - Potential MAYDAY depending on location in building.
- Rescuing viable victim but **too far into building** to make it out safely
 - *Notify IC* via radio report and leave immediately
 - Potential MAYDAY depending on location in building.
- Rescuing victim but **close enough** to make it out
 - *Notify PROCTOR* verbally
 - Display knowledge of exit location and proximity
 - No radio report to IC needed (unnecessary delay).