# MANIPULATIVE SKILLS STUDY GUIDE

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| **4" MODULE** | | |
| **SKILL 1 - 4" Reverse Lay – Ladder Pipe Operations** | | **Chapter 6.0**  **Subsection 6.8** |
| **POSITION: LINE BREAKER # 4** | |
| 1 | Secures the portable radio |
| 2 | Secures the 4" female coupling and increaser |
| 3 | Ensures that the 4" female fitting can reach the assigned fitting |
| 4 | Makes the proper anchor with the 4" hose |
| 5 | Replaces the increaser and secures the 4" double male |  |
| 6 | Takes up the proper anchor position |
| 7 | Correctly advises when they would secure from anchor |
| 8 | Attaches the double male to the hose line correctly |
| 9 | Correctly attaches the supply line to the truck's intake valve. Spanner tight |
| 10 | Advises the truck engineer, that their supply line is ready |

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| **SKILL 2 - Spot the Hydrant** | | **Chapter 6.0**  **Subsection 6.7** |
| 1 | Calls out which 4" hose line they are going to secure (25') |
| 2 | Secures the hydrant wrench |
| 3 | Secures the 25' section of 4" hose |
| 4 | Takes the rolled section of hose to the proper intake |
| 5 | Secures the male coupling properly |
| 6 | Takes the female coupling to the hydrant safely |
| 7 | Properly connects the 4" supply line to the hydrant |
| 8 | Checks the supply line to ensure no kinks or hazards |
| 9 | Charges the supply line safely when called to do so |
| 10 | Checks for and fixes any leaks and/or kinks in the supply line |

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| **SKILL 3 - Complete the 4” Supply Line to the ladder pipe orientation** | | **Chapter 6.0**  **Subsection 6.8** |
| **P.P.E. – Helmet, Turnout Coat, & Structure Gloves** | |
| 1 | Calls out their intentions to the engineer |
| 2 | Properly secures the additional amount of 4" hose |
| 3 | Safely breaks the coupling away from behind the apparatus |
| 4 | Secures male coupling and returns female coupling to the tailboard |
| 5 | Properly secures the female coupling and additional hose |
| 6 | Secures the male coupling properly |
| 7 | Secures the 4" double female |
| 8 | Properly attaches the double female to the 4" discharge |
| 9 | Properly attaches the male coupling to the 4" double female |
| 10 | Advises their engineer, that the truck supply line is ready |

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| **SKILL 4 - 3" Supply Line to the Portable Monitor** | |  |
| 1 | From the tailboard area, secure the 3" | **Chapter 6.0**  **Subsection 6.13** |
| 2 | Secure the proper amount of 3" hose |
| 3 | Tell the engineer to break the supply line when advised |
| 4 | Advance the coupling and 50' of hose to the portable monitor |
| 5 | Advise the engineer to break the supply line |
| 6 | Form the supply line into a modified "Donut" hose control |
| 7 | Check for a gasket in the monitor's female swivel |
| 8 | Attach 3’ hose hand tight / Nozzle spanner tight |
| 9 | Secure the monitor and hose line with the manufacturer's hose straps |
| 10 | Insure nozzle is in full fog, full GPM, fully upright |
| 11 | Secure sledge and properly secure monitor to ground |

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| **1¾" MODULE** | | |
| **SKILL 5 - 200' Crosslay - Interior Attack Line** | | **Chapter 8.0**  **Subsection 8.1** |
| 1 | Safely and completely dons an S.C.B.A. and full P.P.E. |
| 2 | Turns over their accountability tag to the engineer |
| 3 | Properly secures the 200' crosslay. Drop and Go |
| 4 | Advances the line to the entry area properly |
| 5 | Flakes out the attack line and Masks Up |
| 6 | Performs the proper nozzle checks and calls for water |
| 7 | Performs a pressure pattern test |
| 8 | "Clicks in" and properly advances to the fire |
| 9 | At the fire, uses a straight stream to knock over the cone |
| 10 | Checks for fire extension |

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| **SKILL 6 - 1 Minute Hose Control / Full GPM** | | **Manipulative Drill** |
| 1 | When asked, recite the GPM settings on the nozzle |
| 2 | Open the nozzle on wide fog |
| 3 | Adjust the nozzle to straight stream |
| 4 | Knock over the three near traffic cones |
| 5 | Maintain control of the nozzle for one minute |
| 6 | Adjust the stream pattern to a fog pattern |
| 7 | Lower the GPM flow to 95 GPM |
| 8 | Advance the flowing attack line 50' |
| 9 | Direct a straight stream onto the next traffic cone |
| 10 | Shut down and secures the nozzle correctly |

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| **SKILL 7 - Advance a Charged 1¾" Line to the 3rd Floor Landing Using the Ladder** | | **Chapter 8.0**  **Subsection 8.9** |
| 1 | Properly tie off the hose line and nozzle using a Webbing |
| 2 | Ask the proctor to foot the ladder |
| 3 | Ascend the ladder safely with the hose line |
| 4 | Place the Webbing loop over the right beam of the ladder |
| 5 | Check for structural integrity from the ladder |
| 6 | Properly secure the nozzle to the landing |
| 7 | Pull up 50' of working line |
| 8 | Do not lose control of the nozzle or hose line |
| 9 | Properly tie off the working line coupling |
| 10 | Properly lower the hose line using the "Drop" method |

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| **SKILLS 8 - Advance 200' of 1¾" to the 3rd Floor** | | **Chapter 8.0**  **Subsection 8.2** |
| 1 | Uses the shoulder carry "Flip" method to secure the crosslay |
| 2 | Ensures that no hose is left in the hose bed |
| 3 | Maintains control of the hose bundle to the building |
| 4 | Ensures that all of the hose has been advanced into the building |
| 5 | Ascends the stairwell, ensuring that no slack is left behind |
| 6 | Maintains control of the hose bundle up the stairs |
| 7 | Calls out the floor levels |
| 8 | Secures the hose bundle properly on the 3rd floor |
| 9 | Properly ties off the hose line |
| 10 | Flakes out the working line |

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| **SKILLS 9 - Highrise Hose Pack Deployment** | | **Chapter 8.0**  **Subsection 8.8** |
| 1 | Secures high-rise hose pack "A" notifying the engineer |
| 2 | Calls out the floor numbers on their way up the stairs. Clears leaks, kinks and hazards of 3” to FDC. |
| 3 | Secures the hose pack to the correct landing |
| 4 | Lines up the hose pack to ease in hose advancement |
| 5 | Properly secures the gated wye to the 2nd floor FDC |
| 6 | Notifies crew members when they get to the FDC |
| 7 | Properly connects the gated wye to the FDC(spanner tight) |
| 8 | At the hose pack, opens the pack into a circle |
| 9 | Properly advances to the third floor |

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| **2 ½’’- 3" MODULE** | | | |
| **SKILL 10** **- Hand Lay a 3 ” Supply Line Back to the Hydrant** | | **Chapter 7.0**  **Subsection 7.1** |
| 1 | Informs the engineer of their intentions |
| 2 | Secures the 3” nozzle and breakaway from the hose bed and properly stows nozzle in compartment. |
| 3 | Secures the 2 ½” double female and attach to male coupling |
| 4 | Secures hydrant wrench |
| 5 | Reminds the Engineer to break the supply line when advised |
| 6 | Checks and calls “clear” then proceeds to the hydrant |
| 7 | At the hydrant, calls back to have the supply line broken |
| 8 | Checks for a gasket in the female swivel of the supply line |
| 9 | Properly attaches the supply line to a 2½” discharge Anything over 1 min is a delay |
| 10 | Charges the supply line slowly and completely where advised |
| 11 | Checks for leaks, kinks and hazards along the supply line |
| 12 | Informs the engineer of their intentions |

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| **SKILLS 11 - Supply FDC /Unspecified** | | **Chapter 7.0**  **Subsection 7.3** |
| 1 | Calls out to the engineer their intensions |
| 2 | Secures a 2½" breakaway |
| 3 | Properly attaches the breakaway to the hose line |
| 4 | Secures any additional hose necessary |
| 5 | Reminds the engineer to break the supply line when advised |
| 6 | Safely advances the supply line to the FDC |
| 7 | Advises the engineer to break the supply line |
| 8 | Performs the five FDC checks on both of the inlets |
| 9 | Attaches the supply line to the FDC spanner tight |
| 10 | Calls back to the apparatus to have the supply line charged |

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| **SKILLS 12 - Supply FDC /Specified** | | **Chapter 7.0**  **Subsection 7.3** |
| 1 | Calls out to the engineer their intentions |
| 2 | Secures a 2 ½” breakaway |
| 3 | Properly attaches the breakaway to the hose line |
| 4 | Secure any additional hose necessary |
| 5 | Break the last coupling to leave the hose bed properly |
| 6 | Bring both couplings back to the apparatus and place properly |
| 7 | Properly secure 2 ½ ” breakaway |
| 8 | Check and call clear prior to moving away from pump |
| 9 | Perform the five FDC checks on remaining inlet |
| 10 | Attach 3” supply hose to FDC spanner tight |
| 11 | Properly call back to have supply line charged |

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| **SKILLS 13 - Secure a 200’ of 2 ½” Attack Line/Specified** | | **Chapter 7.0**  **Subsection 7.2** |
| 1 | Secures S.C.B.A. and Accountability Tag |
| 2 | Properly secures the nozzle and 50' of working line |
| 3 | Continues to flake out additional hose properly |
| 4 | Clears the called for amount of hose from the hose bed |
| 5 | Breaks the last coupling to leave the hose bed properly |
| 6 | Brings both couplings back to the apparatus |
| 7 | Places the male coupling and extra hose under the tailboard |
| 8 | Properly secures the nozzle and working line coupling |
| 9 | Checks and calls "clear" before moving away from pump |
| 10 | At the directed area, properly flakes out the working line |
| 11 | When asked, can recite the GPM. settings on the nozzle |

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| **SKILLS 14 - Two Minute "Standing" Hose Control** | | **Manipulative Drill** |
| 1 | Performs the required nozzle checks |
| 2 | Calls and signals for water |
| 3 | Checks for and fixes any kinks in the working line |
| 4 | Opens the nozzle slowly in the wide fog stream position |
| 5 | Goes to straight stream under control |
| 6 | Knocks over the traffic cone per instructors directions |
| 7 | Maintains control of the nozzle for 2 minutes |
| 8 | Maintains control without the need to stop flowing water |
| 9 | Shuts the nozzle down slowly and under control |
| 10 | Properly resets the nozzle |

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| **SKILLS 15 - "Webbing" 2 ½” Hose Control** | | **Chapter 7.0**  **Subsection 7.7** |
| 1 | Properly ties off the hose line using a Webbing |
| 2 | Places the Webbing over the correct shoulder |
| 3 | Makes the proper nozzle checks |
| 4 | Opens the nozzle in the full fog setting |
| 5 | Adjusts the nozzle to straight stream |
| 6 | Knocks over the second traffic cone |
| 7 | Controls the hose stream for 30 seconds |
| 8 | Maintains control without the need to stop flowing water |
| 9 | Shuts the nozzle down slowly and under control |
| 10 | Resets the nozzle properly |

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| **Skills 16 - 3” "Q" Hose Control** | | **Chapter 7.0**  **Subsection 7.7** |
| 1 | Repositions the nozzle for a "Q" hose control |
| 2 | Properly flakes out the working line behind the nozzle |
| 3 | Asks for help to reset the hose line |
| 4 | Places the nozzle approx. 15" forward of the crossed hose |
| 5 | Properly ties off the crossed hose lines |
| 6 | Secures the 3" playpipe advising the engineer |
| 7 | At the hose control, removes the reducer and s.o.f. nozzle |
| 8 | Properly attaches the playpipe |
| 9 | Can recite the correct tip sizes of the playpipe nozzle |
| 10 | Safely directs the water stream onto the last traffic cone |

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| **SKILL17 - 2½" Attack Line to the Third Floor** | | **Manipulative Drills** |
| 1 | Dons an S.C.B.A. placing it in the standby position |
| 2 | Turns over their accountability tag |
| 3 | Secures 24’ GEL and properly deploys to the 3rd floor mid-  landing |
| 4 | Properly secures the 2½" s.o.f. nozzle and 50' of working line |
| 5 | Properly advances the nozzle and working line to the ladder |
| 6 | Asks for the ladder to be footed |
| 7 | Places the nozzle over their shoulder properly and ‘butt shut’ |
| 8 | Properly advances up the ladder |
| 9 | Checks for structural stability from the ladder |
| 10 | Pulls up fifty feet of working line and advises engineer to ‘break my line’ |
| 11 | Ties off the 50' coupling and flakes hose to advance to third floor. |

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| **SKILL 18 - Progressive Hose Lay** | |  |
| **POSITION: LINE BREAKER #3** | | Comments |
| 1 | Secure portable radio | **Chapter 11**  **Subsection 11.2**  1. The order given to Line Breaker #3 will be: **Progressive Hose lay**  **Wildland pack**  2. The order given to Drop Off #4will be: **Progressive Hose lay Wildland pack** |
| 2 | Secure Wildland pack |
| 3 | Perform the proper nozzle checks (low GPM), calls for water |
| 4 | Opens the nozzle on wide fog low GPM |
| 5 | Adjust the nozzle to a tight fog pattern |
| 6 | Advance the flowing attack line 50' |
| 7 | When “hose” is called by your partner stop advancement of hose and wet down area (including hose behind) and work  with partner for Wildland deployment |
| 8 | Shut down line and remove nozzle |
| 9 | Work with partner to add first bundle and ensure proper deployment of hose |
| 10 | Take male end of hose with 1.5” nozzle |
| 11 | Make proper nozzle checks and calls for water |
| 12 | Properly advance hose line while flowing water (approx90') |
| 13 | Place gloved finger over nozzle opening to get tight fog pattern |
| 14 | When “hose” is called by your partner, stop advancement of hose and wet down the area in front and hose behind |
| 15 | Call for “clamp” and remove nozzle with1.5” nozzle |
| 16 | Work with partner to remove the second hose bundle from the wildland pack and ensure properly deployment of hose. Add nozzle |
| 17 | Make proper nozzle checks and calls for “water” |
| 18 | Properly advance hose line while flowing water (approx90') |
| 19 | When “hose” is called by your partner, stop advancement of hose and wet down the area in front and hose behind |
| 20 | Call for “clamp” and remove original nozzle with 1.5”nozzle |
| 21 | Work with partner to remove the last hose bundle from the pack and ensure proper deployment of hose. Add nozzle |
| 22 | Make proper nozzle checks and calls for “water” |
| 23 | Properly advance hose line while flowing water (approx90') |
| 24 | When “hose” is called by your partner, stop advancement of hose and wet down the area in front and hose behind |

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| **SKILL 19 - Progressive Hose** | | **Chapter11**  **Subsection 11.2** |
| **Position: DROP OFF #4** | |
| 1 | Secure portable radio |
| 2 | Secure round nose shovel |
| 3 | Position approx. 10-12 feet behind nozzle person and pull hose |
| 4 | Call **“Hose”** to stop hose advance and leave approx. 10 feet of slack when a new section of hose needs to be added |
| 5 | Move up the line to the nozzle and work with Line Breaker #3 to remove the first hose bundle and properly deploy hose pack |
| 6 | Connect female coupling from hose bundle to the original line’s nozzle |
| 7 | On the call of **“water”** from Line Breaker #3 open the original shut off butt slowly and say **“water coming”** |
| 8 | Position approx. 10-12 feet behind nozzle person and pull hose |
| 9 | Call **“Hose”** to stop hose advance and leave approx. 10 feet of slack when a new section of hose needs to be added |
| 10 | Move up the line to the nozzle and on the call **“clamp”** from Line Breaker #3 use the hose clamp to stop water flow |
| 11 | Work with Line Breaker #3 to remove the second hose bundle and properly deploy hose |
| 12 | Connect female coupling from hose bundle to the water thief |
| 13 | On the call of “water” from Line Breaker #3, release the hose clamp and call out **“water coming”** |
| 14 | Position approx. 10-12 feet behind nozzle person and pull hose |
| 15 | Call “Hose” to stop hose advance and leave approx. 10 feet of slack when a new section of hose needs to be added |
| 16 | Move up the line to the nozzle and on the call **“clamp”** from Line Breaker #3 use the hose clamp to stop water flow |
| 17 | Connect female coupling to the male coupling just freed by the nozzle person |
| 18 | On the call of **“water”** from Line Breaker #3, release the hose clamp and call out “water coming” |
| 19 | Position approx. 10-12 feet behind nozzle person and pull hose |

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| **SKILL 20 - Forward/ Condo Lay - Interior Attack** | |  |
| **Position: LINE BREAKER #3** | | Comments |
| 1 | Offers assistance at the tailboard to Drop Off | **Chapter 12**  **Subsection 11.1**  1. The order given to Line Breaker #3 will be: **Don an**  **S.C.B.A. and secure a 2½" attack line with a 2½" s.o.f. nozzle into the courtyard**  2. The order given to Drop Off #4will be: **Don an S.C.B.A., secure hose pack "A" and assist your partner at the fire** |
| 2 | Returns to their seat fastening the safety belt |
| 3 | Signals the engineer to "take it away" |
| 4 | Waits until the air brake sets before leaving their seat |
| 5 | Advises the Engineer that they will be securing additional hose |
| 6 | Properly secures the next coupling |
| 7 | Properly secures both female and male coupling |
| 8 | Properly completes 4" supply line operation |
| 9 | Dons an S.C.B.A. properly (standby) |
| 10 | Turns over their accountability tag to the A/O |
| 11 | Secures the 2½" attack line properly (Unspecified) |
| 12 | Properly advances the attack line to a safe area near the fire |
| 13 | Calls back to the engineer to "break the line" |
| 14 | Flakes out the "working line" |
| 15 | Makes the proper nozzle checks |
| 16 | Calls and signals for water properly |
| 17 | Directs the water stream at the traffic cones |
| 18 | Properly changes over to the hose pack “A” |
| 19 | Makes the proper nozzle checks to the hose pack nozzle |
| 20 | Calls out to their partner to "charge the hose pack" |
| 21 | Safely advances nozzle to 2nd floor landing |
| 22 | Pulls up 50’ of working line to the 2nd floor landing & ties off  hose |
| 23 | Performs the "Pressure / Pattern" test |
| 24 | Masks up |
| 25 | "clicks in” regulator prior to entry |
| 26 | Signals their partner to "go ahead and make entry" |
| 27 | Provides cover for their partner while they secure the entry |
| 28 | Safely advances into the fire area |
| 29 | Properly advances the nozzle to the fire |
| 30 | Properly secures the fire area |
| 31 | Properly assists with the rescue |