LEFT SEAT TIPS AND TACTICS

FDIC 2024- Handout

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- **The Role of D/E:**
  - Drives Apparatus
  - Responsible For/Operates all Equipment
  - Pump Operator
  - Aerial Operator*
  - Inspects rig and equipment (bumper to bumper)
  - General maintenance
  - Documents discrepancies
  - Pseudo Accountability Officer
  - Incident facilitator
  - Mentor to junior members
  - Responsible for safety of the crew
- **TRAITS of a GOOD D/E:**
  - Knowledgeable Trustworthy Level Headed
  - Detail Oriented Proactive Good Communicator
  - Good at math, writing and map reading
  - Problem Solver Intellectually Curious
  - Mechanically Competent
- **TWO MOST IMPORTANT WORDS**:
  - **ANTICIPATION** -AND- **FACILITATION**
- **HABITS for Success:**
  - Show up EARLY, PREPARED, with the RIGHT ATTITUDE.

        - Have an OPERATION and be METHODICAL in your PROCESS.
        - Train EVERY time you're in the firehouse.
        - Keep your radio ON during non-sleeping hours.
        - Read PASS DOWN Logs.
    - **Tips and Tricks:**
        - Make YOUR OWN Pump Chart
        - Put together an Engineer "bag"
        - Carry grease pencils (marking gauges, accountability, checking pressures and keeping track of equipment coming off your rig)
        - Organize your equipment consistently and with purpose.
        - Slow down when within a block of the incident to take in the scene.
        - Know your 1st due (streets, hydrants, building systems, etc.)
        - Understand your addressing system.
        - Take a different route back to the station after calls.
        - Know your rig (specs, capacities, quirks, etc.)
        - Know your equipment (intimate knowledge of hose, nozzles, power tools, etc.)
        - False Alarms = opportunities to train/learn
        - What size is the water main = number of turns to open/close isolation valve x 3 i.e. 36 turns/3 = 12" main)
        - 20 psi residual on the intake? At the SOURCE (main) NOT INTAKE gauge.
        - Pump FDC at 150 psi? Is a fire pump present? What is the rated churn pressure? This is what we must pump if we take over.
        - Carry a range finder in your D/E bag. (Used for estimating the stretch and distance to water source)
        - Good D/E FILL IN THE BLANKS (Proactive!)
        - Position with BIG PICTURE in mind (sometimes pulling past is NOT the BEST position)
        - If pulling past (3-sided view): hose deploys from REAR = angle your engine 45 deg. AWAY from fire. Hose deploys from CROSSLAY = angle engine 45 deg. TOWARDS the fire. Helps with smoother deployment!
        - On an AERIAL? Get it out of the bed early and often.

        - Practice the Abnormal (short jacking, overrides, etc.)
        - Booster backup? 75’ donut load and placing a cone 6 paces behind engine will allow perfect position of 2nd due everytime without prohibiting ladders, hooks, etc. from being deployed from 1st due and still reaching both pump panels.
        - LDH Lean- you can feel hose getting spongy BEFORE cavitation occurs.
        - Place a TOWEL over leaky valves/gaskets at/near the pump panel.
        - Break surface tension in drafting ops (ball, plywood, etc.)
        - Top off water tanks ASAP once water supply est. (REDUNDANCY)
        - Room & Contents Shuttle Ops- place ball/gate valve on hydrant
        - Direct Tank Fill- An asset to Shuttle Operations.
        - Heavy Hookups- Two LDH and one MDH = Gold Standard
        - Two 5” LDH hydraulic equivalent to one 7.25” INDUSTRIAL LDH
        - We CAN EXCEED RATED PUMP CAPACITY- Remember, pumps are rated under very specific conditions from a DRAFT.
        - RPM NOT PRESSURE is usually the limiting factor affecting pump efficiency. Lower RPMs = more efficiency (think human heart)
        - Seized FDC swivel connection? Solution= 5-7 counter twists in hose
    - **TROUBLESHOOTING:**
        - ALL Problems with PUMP OPS can be broken into **1 of 3 categories:**
            - Supply Side Problems
            - Mechanical/Pump Problems
            - Discharge Side Problems
    - **Examples/Solutions to Supply Problems**-
        - Bad Hydrant?
            - Broken stem (freespin)? = move on to another hydrant
            - Isolation valve partially/completely off? = open w/ T-handle water key
            - Broken main = alternative water supply ops
        - Delay in supply apparatus? = must plan accordingly and recognize limitations
        - Long Lays? = consider 4-way valves, relay pumping, shuttle ops
        - Failed/Sabotaged Hose? = Temporary on tank water

        - Kinks = set up right before charging line- may take multiple FFs to fix
        - Clogged hard suction strainer? = Back flow to dislodge debris/clean strainer
        - Failed relief valve? = move supply to different intake*
        - Failed primer? = Burp drafting
    - **Examples/Solutions to Pump/Mechanical Problems-**
        - Pump Doesn't Engage? = Start process over→ Manual pump override
        - Pump loses prime? = Pull Primer, close tank fill, check for open valves
        - Cavitation? = Pull primer, reduce output OR increase input.
        - Overheating? = crack tank fill/recirculate, put nozzle on discharge or run small diameter hose to remote location and tie off w/ nozzle open
        - Pump Failure? = Pump through dead pump or move lines to second pumper and a supply via dual pumping
    - **Examples/Solutions to Discharge Side Problems?**
        - Burst/Burned Through Hose? = shut down and replace section
        - Kinks? = set up correctly to start with. D/E should chase all kinks outside the structure. Crew responsible for inside the building.
        - Clogged line/nozzle? =Take tip off/Flush, replace tip, replace nozzle (if needed)
        - Discharge Valve Failure? = Replace pin if possible, use mallet & tool to open valve if accessible, move hose to different discharge
    - If you have a crew report a DROP in hand line pressure and your intake pressure is good AND your pump is otherwise functioning properly and you look at the compound discharge gauge for said hand line and notice a drop in pressure or a the needle bouncing up and down you are dealing with water leaving the system prior to the nozzle via either open valve (wyes, thiefs, etc.) or a cut/burst hose line.
    - If you have the same situation as noted above occur but note no drop or fluctuation in your discharge compound gauge for the respective handline, you are dealing with a blockage somewhere in the line/nozzle assembly.
    - If you are drafting and note your RPMS start to climb and your vacuum reading drops, suspect a clogged intake strainer.
- Types of supply hose lays- forward, reverse, split

- Tandem vs Relay Pumping
    - Goal of Tandem Pumping= **Pressure**
    - Goal of Relay Pumping = **Volume**
    - Relay pumping rules of thumb
        - Largest pump capacity at the source
        - All pumpers in relay in RPM mode EXCEPT the attack pumper (PSI mode). Prevents “cat and mouse” effect.
        - Set intake relief valves 10 psi above pressures needed to maintain needed water at the attack pumper plus their 20 psi “safety cushion”.
    - The **FIRST 10 MINUTES** are where great D/Es shine.
    - Working Driver’s are **FORCE MULTIPLIERS** on the fire ground.
    - Keep Your Priorities Straight
        - **Lines** (1st attack line, backup line, water supply)
        - **Ladders** (Think SEARCH & RESCUE, EGRESS, etc.)
        - **Logistics** (All the other STUFF i.e. rehab, lighting, decon, etc.)
    - Consider Dual Pumping (**INTAKE to INTAKE**) if you have decent positive water supply.
    - Townhomes? Consider placing D/E in a forward operating “holding” position at the front door to protect stairs with stream in limited staffing situations.
    - Master the normal and the not-so-normal uses of your equipment.
    - **Quick Drills** for D/E Training:
        - Street, Tool, SOG review
        - Blank Map/Street Tests
        - Compartment Drills/Quizzes
        - “False Alarm” Practice/Drills
        - Deck Gun Cone Drill
        - NFPA 1410 Timed Drills
        - Quick Pump Drills- Short section of LDH, hose clamp, gate/ball valve, a section of 2 ½ or 3” hose, and a few nozzles. Work through progressions (tank water, booster backup, hydrant changeover).
        - Aerial Depth Perception w/ cone on a rope. Attempt to place cone on top of another cone.