

Cross Training the FEMA USAR K9 for Cadaver Detection

Cross training the FEMA USAR canines will position the task force to more efficiently locate both live and deceased subjects when on missions. While our priority should be locating and rescuing survivors, often due to the nature of the incident or our arrival time on scene, the victims are deceased. Locating human remains brings closure to families as well as the local authorities. Often simply clearing the areas of any victims brings relief to the community and agencies.

This paper addresses recommended steps to cross train a FEMA USAR canine only. Many steps are the same as training a wilderness-cross trained or cadaver-only canine, however, some recommendations are to ensure a USAR dog does not become confused resulting in giving a live indication on a deceased subject. These skills need to be taught separately and clearly to the dog. These steps also do not address any of the legal issues or the training pertaining to the legal issues of using cadaver dogs on missions. Probable cause, liability issues, scene integrity, chain-of-custody issues, logs, and water work as well as other cadaver dog use issues will not be addressed. Instead this is for training a FEMA live-find USAR dog to also locate full body deceased subjects on a USAR mission only, not on any potential criminal case nor disarticulate search.

In USAR the dog is rewarded by the subject which is impossible for cadaver training. Even if the dog is not yet clicker trained, the clicker should be used for training cadaver work. This clearly marks the desired behavior, speeding up the learning curve, creates time & distance to reward as well as physical distance from the handler. All the steps are initially taught in flat, open areas. Only once the dog has mastered the cadaver search process is the source hidden from view, and gradually moved to new types of scenarios such as buildings & rubble. It is highly recommended that cadaver training be done on a separate day in a neutral environment to the USAR dog. If the dog is in live find USAR mode, it will be hard to clearly differentiate the skills for the dog and may cause issues later on, especially on missions. Therefore, find another training location that the dog does not associate with live find USAR training. Even when it is time to train on rubble/buildings, be careful not to inadvertently place the dog in live-find mode. For rubble, use smaller piles of debris rather than the large USAR pile. This allows the dog to gain the skills necessary for searching rubble/uneven surfaces without placing the dog in live-find mode. Our USAR dogs know the large pile for live-find and we should not set them up to fail by using those same training piles for both live & dead searching. For our type of USAR training, specific buildings are not as engrained to the dogs and are ok to perform both types of searching in. A real life mission is a clean slate to the dog so a properly cross trained dog will not have issues distinguishing live searching from cadaver searching. It is not necessary to use a physical cue on the dog such as a collar or vest for cadaver searching either. The safety issues with rubble/debris apply to any searching in disaster environments. The dog will know what scent to look for based on command, and if needed, by being shown the scent specific reward.

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Handlers need to use a separate command and indication from their live command and bark indication. If a handler uses 'go find' for live, often they will use 'search' as the cadaver command. FEMA USAR dogs use a stay & bark indication for live. Most cadaver dogs use a passive down as the indication. While a cross trained USAR dog is not being utilized at a crime scene, so disturbing a scene is not an issue, a passive indication is opposite from its live find active bark & dig indication which will help make the different scent work clearly distinguishable to the dog. A re-find is not encouraged as it may lead to the dog incorporating it into its live searching which is not desired in USAR. It helps to use a separate reward which if needed can be a visual cue to the dog that he now will be doing cadaver work (useful on a mission if the dog is being switched from live-find to cadaver searching).

Keep in mind, a recently deceased human smells 'more live than dead'. So a live find USAR dog is more likely to give its live find trained indication than a cadaver dog on this type of subject. Time, trauma, temperature, general weather conditions and location conditions are some of the factors that will influence how long it takes the body to move along that scent spectrum towards active decay and decomposition. Also, a cadaver dog will indicate on sources that may not be a whole body. Any part of a human, any item containing human remains material or residual scent on it will be correctly found by the dog.

As with any scent work, the handler over time will recognize the dog's natural alert behaviors (tail high, tail wagging, slow steps, intense sniffing, head up high sniffing, etc) when in scent. The dog will learn to work into the cadaver scent source then perform a trained indication (usually passive such as a down).

Most importantly, make sure the dog is reliable at each step before moving on to the next step as foundation work is everything - and keep all training fun for the dog.

Beginning Step – Imprinting

A dog needs to understand that this new smell is something he should go into because he will be rewarded for locating the source. At this level, the dog is not asked for any behavior other than being rewarded when it goes into the scent source.

Place a strong training aid either in an open area on the ground or have a helper hold the source container upwind from the dog. Walk the dog on lead to the source. When the dog places his/her nose on the source, click and reward. Each time the dog places his nose on the source, click & reward. Encourage the dog to repeatedly go into the source. Always reward at the source – as close to it as possible so the dog connects physically being at the source with getting the reward. When it is time for the dog to leave the source, the handler should

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reward as he/she draws the dog away using the reward as motivation. Never correct the dog verbally or via the leash when leaving the source after rewarding. If the dog pulls back to the source, reward again, then try to coax the dog away with the reward. Often the handler running will encourage the dog to disengage from the source. This imprinting step is repeated until the dog actively pulls to get to the source.

If a helper was holding the source, next place it on the ground and repeat until the dog pulls to get to it. Once the source is placed on the ground without a helper nearby, the handler should begin to give the dog the new cadaver search command to create the word association with the cadaver scent. The dog should not be encouraged to dig or mouth at a source aid.

Beginning Step – Line Ups

Once the dog actively desires to go into a source, then a beginner search scenario is set up by using a row of alike objects with one containing a cadaver scent source. The row may be made up of cement cinderblocks, flower pots, cardboard boxes, PVC pipes, cricket cages, etc. Use 3-6 containers. Mark the hot container so it will be used in the future for sources and the others will remain as blanks. Cadaver scent is very 'clingy' leaving residual scent on items which will cause a break down in the training progress for the dog if a hot container is used later as a 'blank' since it will be corrected for having interest in that item which at the moment does not contain the visible source, but in reality the dog may be smelling residual scent. Be careful how the hot containers are handled and stored. Always place out the blank containers first, then the hot container/source last. When moving the source, move the blanks in the line up leaving the hot container with source in place (because residual scent will be found around that hot location). When collecting, pick up the blanks separately then return to collect the hot source so not to cross contaminate.

Set up a line up. Then with the dog on lead, walk toward the line up. Stop, get the dog's focus, give the cadaver search command, and proceed to the first container then continue walking the dog past each container. Walk steadily down the line asking the dog to check each container. The handler may use his hand to point to each container to encourage the dog to check each one. Later the dog will know the game and this is not needed, but the 'check it' command is a valuable skill that will be used later. Once the dog gets to the hot source container and places its nose at the source, the handler or helper should click, and the dog rewarded. In the beginning stages, the dog being rewarded ends the line up. As always, if the dog goes back into the source, it should again be clicked & rewarded. Persistence to the scent source is strongly desired.

Having a helper click makes this step go quicker and more smoothly as the handler than can concentrate on working the dog and rewarding. Also, the

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helper standing to the side will have a better view and therefore is able to click more precisely when the dog places its nose to the source.

This step is repeated until the dog actively searches the line up looking for the source and goes into the source to obtain its reward from the handler. Usually this takes 3-4 exercises, then give the dog a break and change the line up. Once this step is solid even to the first time walking a new line up, the handler will then continue the line up search after the dog is rewarded at the hot container. Often the handler will then walk away from the line up, turn around, and redo the line up from the opposite direction without restarting the dog as it is still in search mode from the initial direction. This gives the dog the chance to find twice for each exercise engraining the desired behavior. Make sure the dog gets a play break between sets of exercises to keep the dog fresh and motivated. A good rule of thumb is to break the dog after 10-15 repetitions.

If the dog has its desired indication behavior known, the handler may start the dog with it before giving the search command. For example, a dog that will eventually need to down at the source – the handler will bring the dog towards the line up, down the dog, then give it the search command which releases the dog to move towards the line up to actively search it.

During these initial steps, the dog is actually smelling the source as well as the container. Later, the dog will be proofed against the containers. Use a variety of sources as well as a variety of containers to allow the dog to generalize the cadaver scent, as well as focus on it and not the item holding it.

Once the dog reliably moves forward checking each source until it locates the cadaver scent material, this exercise should be kept on lead. Later the dog may be worked off lead.

If a dog is not focused or driven to actively search the line ups, a more active approach can be taken. For live, the dog is used to subjects who run away then later walk away, placing the dog in drive. The same can be done with a cadaver source. This is easiest done with a helper. The dog will be on lead, a helper will get the dog's attention, pumping up the dog by moving the source back and forth near the dog, then tossing the source away from the dog. The dog is given its search command then released. As soon as the dog reaches the source, placing its nose on the source, it is clicked & rewarded. The same persistence is encouraged. This is repeated until the dog becomes agitated when he knows a helper has a source.

After the dog is actively seeking the source either in a line up or by the source toss, the dog can then expand the search time & distance. This is accomplished by the dog being on lead, with the helper (or handler if the dog is tied) showing the source to the dog, and then walking away with it to a visible area to place the

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source easily accessed. The dog is then released to make the find. At this stage the source should always be accessible to the dog.

Note: it is preferred to use food initially as the reward because it is faster when doing repetitive finds during training, especially for the line ups. If a toy is to be used, use food for the repetitive steps, then end with the toy. For example, when the dog locates the source in a line up, click & treat immediately, then continue the search pattern. On the last source, treat then continue the jackpot reward with the toy, including using the toy to walk away from the hot source. Or if working on the 'show me' command: click & treat each time the dog touches the source until the last time, then use the toy as reward. Toys will end the focus on the source, yet they will extend the reward where food is more instant. Also toys tend to take more energy out of the dog and while doing quick repetitions you want the dog as focused and hyped as possible. Thus, in the initial stages you want to do multiple finds/'show me's' without pulling the dog off the source which a toy does, so use food instead. Once the dog is searching larger areas, removing the food and rewarding with the toy only is totally acceptable.

Beginning Step - Indications

The trained indication should be learned separately from the search scenario. This behavior must be on a verbal command and performed quickly when prompted to do so. The down is often used as it preserves the scene. Dogs tend to lay down closer to the source – often boxing in the source with their chest and legs. It also gives the dog more leeway when surface conditions are difficult (the dog will be seen squatting, sitting, etc if it is unable to fully down on the surface).

The indication is paired with the scent source using the line ups. When the dog reaches the hot container, click to mark the find, then prompt the indication – clicking as soon as it is performed then reward. When the dog reliably performs the indication on a single prompt, only click when the dog indicates – not on the initial find. As the dog becomes quicker to indicate, remove the verbal cue giving the dog a few seconds to indicate on its own at the source. If the dog does not quickly give the indication, then go back to cueing it until it is truly solid.

If the dog indicates on a blank, verbally tell the dog it is wrong and move on. If the dog is on lead, it is acceptable to give a gentle leash correction at the blank container.

Once the dog reliably indicates quickly on the hot container on line ups without being prompted, the handler should continue walking past the hot container so the dog does not cue off the handler that the particular container must be it since its handler has stopped or slowed. This is a common handler cue that must be proofed off.

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Practical Scenarios - Mini-Area Searching

Once the dog will reliably indicate on the hot source in the line up without a cue, the dog is ready to begin searching small areas with an accessible source. The dog is on lead or tied while a helper (or the handler) shows the dog the source (with or without pumping up the dog depending on its reaction and temperament). Initially the helper should then run with the aid, placing it in a distance accessible location. The dog is given the cadaver search command, and released. Once the dog locates the source, click and if the dog does not immediately perform the trained indication, the handler should prompt it. Once the dog performs the indication, click & reward. Gradually remove the initial find click and verbal indication prompts. Continue clicking once the dog indicates.

This step should be done until the dog reliably actively searches, locates the source and performs the trained indication without prompting/cueing from the handler. Now the dog should actively want to search & find cadaver sources and knows the indication. Add time & distance to the searches by now walking the source away, rather than running with it; place it further away, and delay releasing the dog.

Once these steps have been performed repeatedly with reliability, the 'show me' command can be introduced using line ups.

Intermediary Step - 'Show Me' Command

Most USAR dogs have a 'show me' command already. This is built upon in cadaver work. In cadaver work, the dog is rewarded only when it physically touches the source on the 'show me' command – usually with its paw or nose. This will actually strengthen the 'show me' command for live as well.

Using a line up, after the dog does its indication, click then prompt for a 'show me'. If the dog touches the source, click again and reward. This behavior can be repeated another time without the dog moving from the source. If the dog touches the source again when asked to 'show me' – click and reward. As always, every time the dog touches the source, click & reward. The dog should learn to prompt the handler for the reward by repeatedly going to source and performing the 'show me' touch behavior.

Intermediary Step - Time & Distance to Handler & to the Reward

Once the dog has perfected the search, find, indication, and 'show me', the dog needs to learn to stay at the source. Having a 'stay' hand signal helps this step. By now, the dog should actively be searching away from the handler. The handler should stay back while the dog locates the source and performs the trained indication. This teaches the dog to search independently and minimizes cues given by the handler. When the dog performs the indication at the source a

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distance away from the handler, the handler should use the 'stay' hand signal. Praise the dog for staying and continue to use the hand signal as the dog is approached until the reward is given. This teaches the dog to stay at the source until the handler arrives and gives the reward. If the dog tries to leave the source either to continue searching or to come toward the handler, give a verbal correction and ask the dog to 'show me'. When the dog gets to the source again, verbal praise and again use the 'stay' hand signal but move in quicker to reward. Extend the time & distance until the dog will stay for a long period at a good distance from the handler because it knows eventually the handler will approach and it will be rewarded. This step should be easy for the USAR dog who is already trained to stay at the subject until the handler arrives. Add the 'show me' command after the dog demonstrates it will stay with the source until the handler approaches. Then reward for the 'show me'.

During this stage, use the clicker only intermittently so it does not become a cue nor does the dog rely on it. However, the clicker can be used occasionally to help 'clean up' behaviors or motivate the dog.

Also, increase the size of the search area so the dog learns he may have to search for a long time before coming across the target scent. Keep in mind when doing area searches, the source should be placed for approximately 20 minutes to form a decent scent pool for the dog to work.

Intermediary Step - Hidden/Inaccessible Hides

Once the dog is searching on use of the cadaver command, finding, and indicating reliably on line ups and in small flat open areas, the source can be hidden to the dog. Start with placing the source under leaves or another material to lightly cover up the source. If the dog has an issue searching for it hidden, use the walk-away step to put the dog back in drive. Once the dog locates the source, it should perform its trained indication. Gradually hide the source in a variety of locations until it is fully inaccessible to the dog (under logs/wood/rocks/concrete/tires, in a car bumper, on a shelf, bury it, etc). The dog should find the source and indicate. If the dog is hesitant to indicate it may be confused on what is being asked of him, so go ahead with cueing the dog for the indication. The dog will shortly catch on that this is the same game and he should perform the same way when locating the source.

Once the dog is locating inaccessible sources, add the 'show me' command to these scenarios. Reward on the dog touching as close to the source as possible.

Advancing Step – Increased Difficulty

Once the dog understands searching/finding/indicating for inaccessible sources, gradually increase the difficulty of the search scenario. Make the search in an area that will require more skill for the dog to pinpoint the source and begin

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hiding the source in small rubble piles. Stay away from the main USAR live find training piles.

Agility, directionals, and obedience are the same for all scent work. Search patterns and scent theory are basically the same for the live-find USAR dog and the cadaver USAR dog. For dogs working cadaver scenes in other situations such as crime scenes, water work, disarticulation, etc there is a great deal more to learn for both dog and handler in both search patterns and scent theory. Keep in mind, similar to live searching, the scent may be strongest away from the closest spot to the source. For example, the scent may blow out the far side of a stack of pallets so the dog picks up the scent a distance away even though he could physically be closer to the source on the other side. Reward at the strongest scent for the dog. You can then encourage the dog to do a detailed search to make a closer find and 'show me'.

Be aware that a stay & bark dog may try to bark at inaccessible sources. This is due to the dog thinking stay & bark is for human scent that he can not get to – rather than just for live human scent that is inaccessible. This often occurs in buildings or rubble as the dog may associate the barking with those physical conditions. Simply verbally correct the dog, give a cadaver indication prompt and reward for the cadaver indication. In time, the dog will understand even if the cadaver source is not accessible, he is still to perform the cadaver indication.

By placing the aid in small piles and difficult terrain, the dog will need to perform the indication despite the physical obstacles. When training only reward the dog for the actual trained indication. If the dog is unwilling at first to down in an uneven or uncomfortable spot, go ahead with cueing the down. Reward immediately once the dog downs. This builds up the indication so on a real mission the dog will find a way to down, or will actively try making it clear to the handler the dog has located a source by hovering/squatting, sitting, leaning its chest against an obstacle, etc.

Advancing Step – Distractions & Proofing Against Animal

Once the dog has a solid foundation and has demonstrated proficiency, add distractions in the search scenario. The dog must search with noises, other dogs, food, blank containers of the type used in cadaver training, etc in the area. Most critical, is the dog must differentiate between human and animal remains. Work on one distraction at a time initially.

Place the blank container/animal remains in the open during a small area search with the human scent source at the far end of the sector. Make sure the dog has to pass by the animal remains and the animal remains are not cross contaminated by the cadaver training aid. If it stops at it or gives an indication, verbally correct the dog and tell it to continue searching. Reward when the dog performs correctly at the human cadaver scent aid.

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Gradually hide the distractions from view in the search area as well as use them in similar containers (kept separately to avoid cross contamination). The dog must be proofed against these so it uses its nose only to locate human remains. Also place cadaver aids loose (no container) to ensure the dog is seeking only the cadaver scent and not any scent related to containers used in trainings.

It is also critical at this stage to place false holes and dog/human tracks so the dog does not just follow the live human scent track right into the source. Make sure the person who places the aids walks all over the area, occasionally stopping in one location to create a scent pad there. Dig false holes or disturb the surface material in random spots. Have another dog run through the area. Be careful to proof the dog off indicating where another dog has dug.

Work the dog in empty/blank sectors so the dog accustoms to not locating anything. The handler may reward at the completion of the blank sector if the dog successfully searches and doesn't give any indications. Also, make sure the dog is rotated in the order of working the sectors so it doesn't learn to rely on other clues left by the previous dogs & handlers (dig spots, scent pads, rewards dropped, etc). Each dog should sometimes go first (in a 'clean area'), in the middle, and last to avoid issues on real missions.

At this stage the handler should be working blind problems when possible to ensure both dog and handler can search an area properly with a successful outcome. The person who placed the aid should walk with the handler so the handler may still reward at the correct location. As with all SAR training, follow the 80-20 rule to avoid problems (80% known, 20% blind).

Throughout the cadaver training process, this step must be included as it is critical for successful outcomes during missions.

Advanced Step – Testing the Commands

Begin with an easy scenario for cadaver with other people around and with worn clothes placed in the search sector. Use the cadaver search command. The dog should ignore all live scent and only find/indicate on the cadaver scent. The opposite also needs to be worked. Place cadaver sources in an area, hide a live subject and put the dog on its live command. The dog needs to ignore the cadaver to find the live subject. If the dog has an issue with this proofing, step back to live-find motivational with cadaver in the area. This will teach the dog to temporarily ignore the cadaver sources since it is in live-find mode. Also, place cadaver on the main USAR live-find training pile as well, then work the dog on live-find.

Make sure throughout the cadaver training learning process, the dog is only trained for one scent type (live or dead) each session. For the USAR cross

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trained dogs it is recommended that they do not train for both on the same day. For the USAR cross trained dogs, NEVER ask the dog to find cadaver when there are live hidden/concealed subjects. Also, NEVER ask the dog to find cadaver on the main live-find USAR training piles. This will set the dog up to fail – maybe not that day but it will cloud the picture for the dog. FEMA USAR dogs are primarily to find live hidden subjects and handlers wishing to cross train, especially those who are USAR only, need to be extremely careful to keep these two scent skills and behaviors separate or they risk ruining the good live-find dog.

Proficiency Test the USAR Cross Trained Cadaver Dog

Once the dog has shown in a variety of conditions over time that it has a consistent and repeatable (reliable) search/find/indication, it is ready to test. Any cadaver test should include multiple finds, distractions, as well as blank sectors. Because the environment the USAR cross trained dog will work in, the test scenarios should include similar environments (but not using the usual live-find training piles). An example test would include three areas, one of which must be debris/rubble where the dog would make the find on uneven/uncomfortable terrain, and one would be a building. One sector would be blank (could be either rubble/debris or a building). False holes/disturbances would be made in the debris areas. Dead animal distractions would be placed in at least one of the hot sectors (preferably not in the blank sector). Each hot sector would contain 1-3 sources. The dog must locate all sources and gives its trained indication. The handler must call the location correctly. The dog may not miss a source, nor indicate on a distraction nor in the blank sector.

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Process Steps (Check List)

1. Introduce cadaver scent to dog (helper holding source)
2. Imprint scent and pair search command (source in open area)
3. Beginner line ups – one direction, one source – reward on find only while teaching the ‘check it’ command
4. Beginner line ups – reward at source, then continue line up & work from reverse direction
5. Beginner expanding time & distance with source - known & in sight
6. Indication on prompt/cue
7. Insert indication during line ups on prompt
8. Reliable indication without prompt during line ups
9. Small area search – source runaway – cuing indication if needed
10. Small area search – source walk away – no cueing needed for indication
11. Small area search – source walk away – adding time, distance, and start delay
12. Insert ‘show me’ command in line ups
13. Expanding time & distance to handler & reward
14. Expanding time & distance to handler & reward – add ‘show me’
15. Increase time & distance to source
16. Small area searches with covered sources
17. Small area searches with inaccessible sources
18. Small area searches with inaccessible sources – add ‘show me’
19. Increase difficulty of search scenario - including searching buildings & rubble/debris
20. Proof blank containers, animal/human/environmental/food/disturbance distractions
21. Work blank sectors
22. Rotate sector run position (go first, middle, last to search area)
23. Testing commands – cadaver with people & live article scent
24. Testing commands – live-find USAR with cadaver present
25. Proficiency test the dog & handler