



BED BUG SERVICE PROTOCOLS

Overview

The majority of bed bug services are intended to eliminate bed bugs from the account you are servicing. Occasionally, we will be contracted to manage a bed bug infestation due to complications with the account but it will be made clear on the contract when this is the case.

Very Important:

On an initial service, the extent of the infestation should be classified by the number of bugs found during the service. As you will see in the protocols, you should service all sleeping areas before you service anything else in the house. While you are servicing these areas you should be counting the number of bugs that you find. If you find 20 bugs or less, it is a low level infestation and you will use the low level service protocol. If you find 21-100 bugs on the service, it is classified as a moderate level infestation and if you find over 100 bugs, it is a high level infestation and both the moderate and high level infestations use the standard service protocol. If it is a low level infestation but has outstanding complications (excessive clutter, tenants sleeping on the floor, overcrowding, and excessive spotting even though you couldn't find bugs, etc...) you should use the standard bed bug service protocol. The major difference in the protocols is that that with the standard service, you are servicing to the best of your ability all of the furniture in the bedrooms and living rooms while in the low level service, you are only servicing to the best of your ability the furniture within 2 feet of any sleeping area (typically beds and couches). There are other minor differences in the protocols which you will observe when reading the protocols.

In regards to a low level infestation, the management company or contracting party is typically paying one fee for the service. You should expect to eliminate the problem in 3 services (an initial service and 2 follow-ups). If it takes longer, not only should a manager be contacted to assist with the problem, any additional services are being completed for free. In regards to a moderate level infestation, the parameters are the same as a low level infestation except for the fact that you should expect to eliminate the infestation in 4 services (an initial service and 3 follow-up services). As for a high level infestation, they are paying for each service and the services continue until the bugs are eliminated. You should expect to eliminate a high level infestation in 6 or less services. If the service extends past this number, a manager should be contacted so that they are made aware of the situation.

The schedule of services is that an initial service is scheduled as soon as the schedule will allow. The first follow-up will be scheduled 10 days after the initial service and every follow-up after the 1st follow-up will be 2 weeks apart.

If you do not find bed bugs on a follow-up service and the tenant has not been bitten since your last service (about 2 weeks), control can be declared. The definition of control is 2 weeks with no bugs seen and no bites

experienced. After control, the apartment is monitored (by the tenant and any interception devices) for 6 additional weeks and if at the end of that 6 weeks they still have not seen any bugs or received any bites, elimination is declared. The definition of bed bugs being eliminated from an account is 8 weeks total with no bugs seen and no bites received. If a tenant is not reacting to the bed bugs, an inspection is required at the end of the 8 week period to be assured the bed bugs are eliminated.

In an apartment setting, all sleeping rooms (bedrooms and living rooms) should be considered infested regardless of where the bugs are reported. The sleeping rooms are all so close together and we know bed bugs can travel readily and some people don't react, therefore, all rooms should be considered infested and treated accordingly. In larger homes, there are instances where this may not be the case and some rooms may not be serviced as intensely. In larger homes, you should contact the person who sold the account to determine if there is any additional information you should know about the account.

Note: State of mind is everything on a bed bug job. Your attention to detail and thoroughness of service are key to eliminating bed bug infestations. Any shortcuts or less than perfect service on your part will likely result in service failure (which means you will just have to go back more times!). Take your time, be thorough, work smart.

Surrounding Units

In a multi-family housing setting (whether it be apartments, condominiums, hotels, etc...), it will be suggested that every unit adjacent to the unit that had an infestation reported will be inspected for the presence of bed bugs (any unit that shares a common wall or is across the hall in a high-rise situation). Either surrounding unit visual inspections or interception devices should be conducted or installed near the start of the treatment of the known infestation. If monitors are installed they should be inspected 4 weeks after installation and a visual inspection is not necessary on installation. If using stand-alone interception devices such as SenSci ActivVolcano, the devices can be installed without conducting the inspection and checked 4 weeks later. If the management company does not agree to surrounding unit inspections (or they are not possible as in a row-home setting) all warranties should be voided.

Residents are not allowed in units while services are being done for two reasons: label restrictions and interference for the technicians to do their jobs properly. If a unique set of circumstances exist where the tenant cannot leave the unit being serviced, please contact your manager for further instructions.

Equipment Handling

1. All bed bug teams should have a bed bug "kit" (typically a large cooler or plastic container where equipment is kept). The kit contains any non-chemical tools used to treat bed bugs such as a vacuum, steamer, etc... and the intent of the container is to contain any bed bugs that may be accidentally introduced to the service truck.
2. The bed bug kit stays in the truck at all times. It is not to be brought into the residence. Obviously the equipment can be brought in but the plastic container itself should remain in the truck.
3. Only bring necessary items into the residence (i.e. do not bring your jacket inside and lay it on couch).
4. Once inside, set equipment down in areas that are not likely to be infested (i.e. kitchen, hallway, the middle of the floor away from all furniture).
5. When the vacuum is not in use during service, seal the end of the vacuum hose with a plug, tape or other tool that can be used to prevent bed bugs from escaping the vacuum.
6. When vacuuming is finished, remove the bag, treat the bag with an appropriate dust product, place it in a trash bag, tie the top of the trash bag in a knot, and discard the bag in an outdoor trash receptacle. Also inspect inside the vacuum for any stray bed bugs.
7. Always keep the steamer in the storage bag and store it securely in the back of the truck.
8. When taking the steamer in the unit to be serviced, place the steamer bag in an area not likely to be infested (i.e. kitchen, hallway, the middle of the floor away from all furniture).
9. To prepare the steamer for service, fill the steamer with water by using the water bottle supplied by the steam company, plug it in and begin warming the steamer up as soon as possible. Warming takes approximately 15 minutes.

10. If the towel at the end of the attachment becomes soaking wet or covered by spotting, replace the towel. Depending on the attachment you are using depends on how the towel is placed on. (Placing the towel on the attachment is very difficult to effectively describe. The steam unit comes from the manufacturer with a towel already attached. Watch carefully when you remove it to be able to put a new towel on.) The dirty towels should be stored in a garbage bag and laundered accordingly by our uniform providers.
11. When service is complete, unplug the steam unit and allow it to cool for a few minutes before placing the steamer back in the bag.
12. If the temperature is supposed to be below freezing that night, drain the steamer at the end of the day. If the water freezes in the unit it can damage the unit.
13. Every month clean the steamer with 3 tablespoons of white vinegar per 1 liter of water. Remove the drain plug from the bottom of the steamer to drain the steamer. Replace the end cap. Place vinegar/water mixture in the unit. Leave the mixture overnight. In the morning, remove the drain plug and drain the mixture. Rinse the tank out with 3 liters of water.

Care and Custody of Self

1. Keep a spare uniform in your truck for emergencies.
2. Always wear rubber gloves to avoid contact with chemicals and blood.
3. Do your best not to contact items in the residence (i.e. don't brush up against bed).
4. Do not sit on any surfaces in the residence.
5. When you need to remove the dust cover on the bottom of a box spring or couch, remove it slowly so that bed bugs/eggs are not flung onto you. Use two hands, one to pull cover off of staples and one to hold cover in place. Remove the cover one staple at a time. Roll the cover up as you go. If the cover is not coming off of the staples with relative ease, cut the dust cover away from the staples with a knife.
6. Be extremely careful when vacuuming loose fabrics. The vacuum can suck fabric up quickly and fling bed bugs/eggs onto you. Keep one hand on the fabric to keep it taught.
7. Use caution when moving mattresses and box springs so that only your hands contact the items. Do not place yourself under the bedding or any other piece of furniture as it is moved.
8. If you are removing items from the unit, you want to wrap the items in tarping or other materials that will prevent bed bugs from flaking off of the items. This will prevent bed bugs from being spread throughout the unit as you move items. This is typically not a job performed by pest control technicians and please contact your manager with any further instructions.
9. Do not rush. Take the time to do the job carefully and methodically.

Application of Chemicals – Always follow label directions on the products being applied

1. **Evaluate all items before they are treated.** Take into account the value and/or condition of items. The way we treat an old, stained, ripped couch will differ from the way we treat an expensive silk sofa. Do not treat items that may be damaged by treatment. If you are ever in doubt, you can try whichever treatment you are applying in an area that is not readily visible (i.e. the underside of a couch, an area of the wall not readily visible, etc.). Remember that the steamer is putting out temperatures in excess of 180 degrees Fahrenheit and can easily damage certain types of fabrics. Be very careful to avoid staining on fabrics. If a mistake is made while treating any surface and something is damaged or destroyed, contact a manager immediately to advise on the best course of action. Also take into account the extent of the infestation in the item. Items more heavily infested will require more extensive treatment than items that are apparently uninfested. Also, if an older couch with apparent wear and tear on it has an extreme infestation, it may be more economically feasible to dispose of the couch. Special, custom designed treatments may be required for sensitive items. Contact a manager when in doubt.
2. **Minimize pesticide exposure.** The elimination of bed bugs relies on the application of pesticides. There is a fine line between applying enough chemical to gain control, and applying too much chemical. Always err on the side of safety. Do not apply chemical to any surfaces that people or pets are likely to contact on a regular basis. Always keep in mind what is behind the area you are treating. If you have a box spring resting against a wall and you attempt to treat the corner of the box spring and fail to see the child's toy behind the box spring and apply chemicals to the toy, this is a mis-application. Also,

remember that even though we are pest control professionals, we also want to limit our contact with chemicals as much as possible. Attempt to avoid contacting your skin with pesticides and watch pesticide drift when treating items.

3. Be careful to avoid applying too much pesticide when treating wall-ceiling junctions so that the pesticide does not run down the wall. Protocol states that we are only treating the wall-ceiling junction when evidence is present in that area and it is not above furniture. Use high pressure (for smaller droplet size) and quick movements to avoid over-application. Do not stand below the area you are treating when treating overhead. Pesticide may drift down on you.
4. **Do not treat any pictures** or wall hangings (pictures, paintings, posters, any paper or fabric items). Although bed bugs will hide in these areas, we have no idea what the values (either monetary or sentimental) of these items are to the owner. Any treatment to these items could cause permanent damage. If any bed bugs are on these items remove them with a vacuum. Then bag the item in a garbage bag and provide the tenant information on how to handle and treat the picture moving forward.
5. The last step of any bed bug job is **clean up**. Be especially aware of any dust residues as the misapplication of dusts is common. Clean any dust misapplication according to label directions or using your best judgment. Always complete a "once-through" at the end of a job. Walk through the account and make sure you have collected all of your equipment.

Obstacles and Triggers

While completing a service there are certain situations that trigger extra attention (obstacles) or the involvement of an expert (triggers). If there are more than 5 of the following obstacles in one account it should be considered a trigger and an expert called. If any of the triggers exist, an expert should be called immediately.

Obstacles

Infested Sleeper sofas

Infested Cribs

Large wood headboards

Excessive clutter (75% or greater of the floor surface covered with furniture and clutter)

Dropped ceiling

Dispersed populations (Bugs found in more than 1 room that is not a sleeping area)

Tenants excessively treating with chemicals on their own

Uncooperative tenants

Triggers

Uncooperative management

Bugs suspected in wall voids

General Treatment Steps

Note: During any and all services, if the situation permits, these steps should be taken. Anywhere in the protocol where it says to steam or vacuum, this section should be referred to for protocol. On low level bed bug services, steaming may/should not be necessary.

Vacuuming

The vacuum should be used to remove any visible evidence of bed bugs or their eggs. This includes dead bugs, hatched eggs and cast skins as long as it is not excessive (an excessive situation means there are dead bugs all over the floors and on most pieces of furniture, if it takes more than 5 minutes to vacuum up old evidence). The main purpose for the removal of the older evidence is to note new dead bugs on future services. Also, first instar bed bugs have been noted to hide in cast skins. By removing them you may be removing small bed bugs you cannot see with the naked eye. If bugs are present they should be removed by holding the nozzle of the vacuum at a 45 degree angle in relation to the surface the bug is on. Pressure may need to be applied to remove eggs due to the sticky substance that the egg is attached to the surface with. Be careful with loose fabrics that you do not flip the bugs on to you. Hold the fabric down with the hand not

holding the nozzle to prevent the “bug flip”. During any service where activity is noted the vacuum should be used to remove bugs. Do not rely on pesticides to kill the bugs. We want to remove them from the environment if possible. When you are done using the vacuum during a service, remove the vacuum bag, apply a small amount of dust pesticide into the bag, wrap the bag up and place it in a garbage bag. That garbage bag should then be disposed of in an outdoor trash receptacle.

Steam - Be aware that the steamer is producing temperatures in excess of 180 degrees Fahrenheit. At any point while steaming you need to be careful not to burn yourself.

Live bugs should be vacuumed up prior to steaming. After the steamer is warmed-up, steaming is completed by attaching the proper attachment head (for carpeting use a larger, rectangular head, for most other surfaces use a smaller head that is a few inches in diameter). You also want to make sure that a towel is attached to reduce the amount of water that is applied to the surface. You should start steaming as high as possible on the object you are steaming and work your way down (steam rises and bed bugs above the area you are steaming will sense the heat and move). Apply the steam parallel to the area to be steamed with a slight space between the attachment and the surface in the direction you are moving and move the steamer about one inch per second (the space between the attachment and the surface is created as to not push bed bugs along the surface being steamed). Obviously this time/rate can be adjusted accordingly (depending on number of bugs, surface being steamed). Make sure that if you have a live bug in your line of site that it's dead once you pass over it. If there is no live bed bugs present in the area you are steaming, directly after you pass over an area place your hand on the surface you just steamed and make sure that it is very warm/slightly hot to the touch (you want to be able to touch the surface and distinctly notice the heat). If it is not excessive, you should vacuum up as much dead activity after steaming so that future inspections are easier. After the service is completed, turn off the steamer, allow it to cool down for 5 minutes and then place it back in the “gym bag.”

During any service, any surface (other than items that are to be encased) that shows signs of bed bug activity (bugs, eggs, spotting) should be steamed in a two-foot radius around the area where the evidence was found. On follow-up services you should respond to new evidence. Evidence that was already steamed should be smeared from previous steaming. If you see new evidence (live bugs, eggs or new spotting) you should steam the area that the evidence is in as well as a two foot radius around that evidence.

Products to be used within the Protocol

Bed Encasements – Bed encasements should be used on all mattresses and box springs to lock bed bugs into the bed and keep bed bugs out moving forward. Bed encasements also shorten follow-ups service by restricting bed bugs to the outside of the encasements thus making service easier to render. If label permits, dust pesticide should be applied to the inside of the box spring encasement prior to closure. If label permits, a liquid residual application should be made to the bottom of the box spring encasement.

Interception Devices – Interception devices should be installed under or next to all bed and couch legs. The devices will capture bed bugs as they travel to and from the bed and assist in the control process. Any bugs captured should be disposed of in an outdoor trash can or flushed down the toilet. Any devices with trap wells that are exposed to dust should be cleaned every 2-4 weeks or as they collect dust. Interception devices should also be considered to be installed in surrounding units.

Standard Service Protocol

Initial Service Protocol

Note: although the term "bed" is used throughout the protocol, "bed" refers to any sleeping area (i.e. couch, a mattress in a closet, etc).

1. Determine if this is an initial or follow up service by checking paperwork.
2. Determine which chemical you are using. Check the chemical record in the service history on the ticket if you are unsure which chemical to use.
3. Prepare equipment; mix chemical, fill the steamer with water and start warming up the steamer, put a vacuum bag in the vacuum, make sure you have what you need for the job. Only mix enough chemical for the job you are about to complete.
4. If the tenant is in the structure about to be serviced, see what information you can acquire from the tenant. It doesn't hurt to ask if they've seen any bugs or been bitten and how recent this happened. Also find out where the largest problem seems to be.
5. Be sure the apartment is vacant. Also, be sure there are no pets present and that any fish tanks have the air supply shut off and top sealed. If pets are present or fish tank is not prepared you may not apply chemicals, however you may work with the vacuum and steamer. In most situations we do not want tenants in the structure we are treating. In rare situations there may be an opportunity where the client cannot leave and you should contact a manager if such a rare situation arises.
6. Check to be sure there that the appropriate form of state regulatory notification is present (apartment sticker, placard, etc...). If not, install the appropriate notification.
7. Set items and B&G in an area of the apartment unlikely to be infested (i.e. center of room away from furniture, in kitchen, in bathroom).
8. **You first want to inspect and treat each bed and couch so that you can determine which protocol to use (low level bed bug service or standard service).**

Bedroom

1. Briefly inspect the mattress linens and comforters for bed bugs. If you find any, remove them using the vacuum.
2. After inspection, remove the mattress linens and seal (tie shut) in a large trash bag being careful not to contact linens any more than necessary. When sealing **any** trash bags, squeeze the air out of the bag and tie shut. If air enters the bag it is not sealed. Re-tie or use another bag.
3. Inspect the top surfaces of the mattress and carefully remove any visible bed bug "evidence" (adults, nymphs or eggs) from the mattress using the vacuum. We are only removing visible evidence that poses a threat to the technician while placing the encasement on. The purpose of the encasement is to lock bugs in and saving time by using encasements is extremely important. **NOTE: WE ARE NOT STEAMING THE MATTRESS OR BOX SPRING PRIOR TO ENCASEMENT.** This excess water inside of the encasement could pose a mold threat in the future.
4. Stand mattress up against wall with the vacuumed side against the wall. Use two people if the mattress is larger than a twin. Only your hands should contact the mattress as you are moving it. Keep your body out from under the mattress so that any bed bugs that might drop off of mattress fall on floor and not on you.
5. Vacuum any bed bugs and/or eggs on bottom surface of mattress.
6. You should measure the length, width and depth of the mattress.
7. Determine the most appropriate size of the encasement you should use to encase the mattress. Not all mattresses will fit an encasement perfect. If you have found an "odd" size, choose the encasement that most closely fits the mattress.
8. Remove the encasement from the packaging.
9. Unzip the encasement.
10. Drape the encasement over the mattress with the closed end of the encasement at the top of the mattress.
11. Zip the encasement **COMPLETELY CLOSED** to make sure that bed bugs cannot escape the encasement.

12. Inspect and remove box spring linens and seal (tie shut) in a large trash bag being careful not to contact linens any more than necessary. If bed bugs are present, remove them with a vacuum.
13. Inspect the top surface of the box spring and remove any bed bugs with the vacuum.
14. Stand box spring up against the wall with the vacuumed side (top) against the wall. Use two people if it is larger than a twin. Only your hands should contact the box spring as you are moving it. Keep your body out from under the box spring so that any bed bugs that might drop off of box spring fall on floor and not on you. Note, normally most of the bed bugs will be in the box spring so be extra careful.
15. Vacuum any bed bugs and/or eggs off of bottom of box spring that would pose a risk to the technician applying the encasement.
16. At this point is it good to evaluate the condition of the box spring. Regardless of the level of infestation, if it is in extremely poor condition to the point that it threatens to compromise the encasement, we may need to recommend that it is disposed of. Also, if it is ok to encase, we need to remove any sharp edges that may threaten the encasement (loose or exposed staples, plastic corner pieces that have sharp edges, etc...).
17. You should measure the length, width and depth of the box spring in inches.
18. Determine the most appropriate size of the encasement you should use to encase the box spring. Not all box spring will fit an encasement perfect. If you have found an "odd" size, choose the encasement that most closely fits the box spring.
19. Remove the encasement from the packaging.
20. Unzip the encasement.
21. Drape the encasement over the box spring with the closed end of the encasement at the top of the box spring.
22. Zip the encasement about a foot from being closed and insert and inject about 3-4 grams of dust into the box spring underneath the dust cover (if the label permits).
23. After this, zip the encasement COMPLETELY CLOSED to make sure that bed bugs cannot escape the encasement.
24. If the pesticide label permits, apply liquid residual to the underside of the box spring on to the box spring encasement (the side of the encasement that will be down).
25. Vacuum and steam the bed frame if needed.
26. Felt needs to be applied to any sharp edges or areas that will cause excess pressure on the bed frame (if one exists) to prevent wear and tear on the box spring encasement.
27. First identify the area that needs a piece of felt and take a piece of felt and trim it to fit the area to be covered.
28. Take the piece of felt and remove the white paper backing.
29. Place the sticky side of the felt to the bed frame to completely cover the area that may cause the encasement to become compromised. The piece of felt should not hang over the edge of the bed frame and should fit the area to be felted comfortably.
30. Fan spray top and bottom of the bed frame.
31. Apply dust to cracks and crevices of the bed frame if applicable.
32. If a headboard is present fan spray the back of the headboard.
33. Fan spray front (inside) of headboard below the mattress level only.
34. Crack and crevice headboard especially where frame or bed rail meet headboard (be careful not to destroy the headboard with your crack and crevice treatment, if you cannot complete this task without destroying the headboard an alternative treatment or discarding of the furniture will need to be decided upon).
35. If a footboard is present, fan spray front of footboard .
36. Fan spray back (inside) of footboard below the mattress level only.
37. Crack and crevice footboard especially where frame or bed rail meet footboard.
38. Fan spray along the inside of the bed rails.
39. Crack and crevice the bed rails especially in any screw holes.
40. If carpet is present, pull the carpet from the tack strip in an area behind the bed and about 2 feet from either side of the bed. Inspect the tack strip and baseboard and if excess carpet pieces or dirt are present, remove them with a vacuum. Also, vacuum any visible bed bugs and if needed.

41. If there is a gap between the baseboard and floor, apply dust beneath the baseboard while the carpeting is up.
42. Replace carpeting and step on the carpeting to reattach the carpeting to the tack strip.
43. Apply a liquid residual along the baseboard where you pulled the carpet off of the tack strip.
44. Remove any outlet or switch plate cover within 2 feet of the bed.
45. Apply dust around the electrical box being careful not to contact electrical connections with the dust bulb extension.
46. Replace outlet covers and switch plates.
47. Either before or during putting the bed back together, place interception devices under or next to the legs of the bed. If the legs are too large or the bed rests on the floor, place interception devices on the floor next to the legs.
48. Replace the bed frame, box spring and mattress being careful not to rip the encasements.
49. Repeat steps 1-48 for any other beds in the home (**remember to keep track of the number of bugs you are counting**).
50. Now head out to the couches or upholstered living room furniture.
51. First area to be serviced is the upholstered furniture. If bugs are found, vacuum any visible evidence of bugs off. If bugs are found, steam a 2-foot radius around the area where the bugs were found.
52. Remove and carefully inspect the couch cushions paying special attention to the zipper seam and any other folds or crevices that may harbor bed bugs. When done, be sure that all zippers are closed.
53. Inspect all seams cracks and crevices on the surface of the couch. This includes the dust ruffle on the bottom edge of the couch, folds on the arms, folds on the cushions and any other area that could be prone to bed bugs.
54. If the sofa is a sleeper sofa, pull the sleeper section out.
55. Inspect the mattress of the sleeper sofa and the frame work of the sofa.
56. Vacuum any visible evidence from the mattress or frame.
57. Encase the mattress if it is infested. Be aware that the encasement will fit loosely but it may be a good option if the mattress is infested.
58. Fan spray the inside framework of the sleeper sofa and any other surface you can't get to once the couch is flipped over.
59. In regards to the mattress frame (where the mattress rests on the pull-out), crack and crevice any cracks or crevices.
60. Place the mattress back on the frame and place the mattress back in the sofa.
61. Turn couch over using two people if larger than a love seat.
62. Inspect the bottom of the couch and if visible evidence is present vacuum it up.

63. Poke a small hole in the dust cover one foot from the corner of the couch. Then place a small hole every three feet around the perimeter of the dust cover of the couch.
64. Insert dust into these holes and inject a gram per hole.
65. Fan spray bottom of couch, especially along edges.
66. Remove all outlet covers and switch plates that are within 2 feet of any infested upholstered furniture.
67. Apply dust around electrical box in wall avoiding electrical connections.
68. Replace outlet covers and switch plates.
69. If carpet is present, pull the carpet from the tack strip in an area behind the couch and about 2 feet from either side of the couch. Inspect the tack strip and baseboard and if excess carpet pieces or dirt are present, remove them with a vacuum. Also, vacuum any visible bed bugs and if needed.
70. If there is a gap between the baseboard and floor, apply dust beneath the baseboard while the carpeting is up.
71. Replace carpeting and step on the carpeting to reattach the carpeting to the tack strip.
72. Apply a liquid residual along the baseboard where the carpet was pulled up.
73. Turn couch back over.
74. Fan spray around the base of the couch.
75. Replace the couch cushions.
76. Either before or during putting the couch together, place interception devices under or next to the legs of the couch. If the legs are too large or the couch rests on the floor, place interception devices on the floor next to the legs
77. Repeat steps 50-76 for any other upholstered furniture in the area you are working.
78. **At this point you should know which protocol you are going to use. If up to this point you have counted more than 20 bugs, you are going to continue with this protocol. If it is 20 bugs or under, then you are going to use the low level service protocol.**
79. Head back to the bedroom where you started.
80. If nightstand is present, remove drawers from nightstand and set aside. Inspect the exterior of the drawers for bed bugs as you go.
81. Inspect the interior of the nightstand for bed bugs and remove them accordingly and steam if possible.
82. Fan spray inside the nightstand framing out the interior by spraying all corners. If drawers do not remove, this step will not be completed.
83. Crack and crevice inside the nightstand.
84. Inspect the back of the nightstand for bed bugs and remove them accordingly and steam if possible.
85. Fan spray back of nightstand.
86. Crack and crevice back of nightstand.
87. Turn over nightstand and inspect the bottom of the nightstand for bed bugs and remove them accordingly and steam if possible.
88. Fan spray bottom of nightstand.
89. Crack and crevice bottom of nightstand.
90. Turn nightstand over and replace the drawers.
91. Repeat 79-90 with any other nightstands or furniture **anywhere in the bedroom** (regardless of what piece, i.e. a chair, hope chest, etc...). Dresser protocol is the same as nightstands except that many times you can't flip them over. Other furniture should be treated as thorough as possible.
92. If there are wall hangings, remove those wall hangings from wall and inspect. **Do not treat pictures** or paintings no matter how invaluable they appear, vacuum only. Be sure to document any pictures that are found to be infested so that the owner can determine how to proceed with the pictures.
93. Crack and crevice all moldings (door frames, window frames, baseboards).

94. Crack and crevice other areas in room (cracks, holes, etc.).
95. If there is a closet in the bedroom, inspect the closet.
96. If it is not emptied or you are unable to treat it, recommend that the closet be emptied on future services if bed bug activity is noted.
97. If you can service the closet, crack and crevice all available areas and fan spray any baseboard, wall-wall or wall-ceiling junction that is accessible.
98. At this point, suitcases should be searched for in the room. If suitcases are found, they should be inspected for bed bugs.
99. If the suitcase is full, make sure it is zippered closed and have the tenant empty it for our next service.
100. Inspect all seams, folds and edges on the suitcase.
101. If there are no bed bugs found on the suitcase, you can steam the suitcase if you feel uncomfortable with it, but otherwise it does not need to be steamed.
102. If bed bugs are found on the suitcase, the entire surface of the suitcase should be steam treated.
103. Fan spray baseboards. Be as thorough as possible, move any items in your way if it is possible or practical.
104. Fan spray wall-wall junctions.
105. If there is visible evidence along the wall-ceiling junction, fan spray the wall-ceiling junction. If no evidence is present, do not apply liquid residual to this area.
106. Repeat steps 79-105 for other bedrooms.
107. Head back to the living room.
108. If there is furniture other than upholstered furniture or couches present, use the protocol for nightstands to service this furniture. If drawers are not present, omit the drawer steps. Coffee and end table protocol should be very similar to that of nightstands. Any other furniture should be serviced to the best of your ability.
109. If there are wall hangings, remove those wall hangings from wall and inspect. **Do not treat pictures** or paintings no matter how invaluable they appear, vacuum only. Be sure to document any pictures that are found to be infested so that the owner can determine how to proceed with the pictures.
110. Crack and crevice all moldings (door frames, window frames, baseboards).
111. Crack and crevice other areas in room (cracks, holes, etc.).
112. If there is a closet in the bedroom, inspect the closet.
113. If it is not emptied or you are unable to treat it, recommend that the closet be emptied on future services if bed bugs are noted.
114. If you can service the closet, crack and crevice all available areas and fan spray any baseboard, wall-wall or wall-ceiling junction that is accessible.
115. At this point, suitcases should be searched for in the room. If suitcases are found, they should be inspected for bed bugs.
116. If the suitcase is full, make sure it is zippered closed and have the tenant empty it for our next service.
117. Inspect all seams, folds and edges on the suitcase.
118. If there are no bed bugs found on the suitcase, you can steam the suitcase if you feel uncomfortable with it, but otherwise it does not need to be steamed.
119. If bed bugs are found on the suitcase, the entire surface of the suitcase should be steam treated.
120. Fan spray baseboards. Be as thorough as possible, move any items in your way if it is possible or practical.
121. Fan spray wall-wall junctions.
122. If there is visible evidence along the wall-ceiling junction, fan spray the wall-ceiling junction. If no evidence is present, do not apply liquid residual to this area.

Other Areas (areas where bed bugs are not found or unlikely to occur)

1. Briefly inspect furniture present in these areas. Although they should not be infested, it is always possible that bugs have spread or are present in areas you do not expect. If you find an infestation in an unsuspecting room, treat the furniture in the room using the protocol above as best you can.
2. Fan spray baseboards and wall-wall junctions in uninfested areas (i.e. dining room, bathrooms, unfinished basement, etc.) being especially careful of wall coverings and spray drift onto belongings.
3. Treat other areas of the residence as necessary following the above guidelines.

Final Actions

1. Inspect all surfaces for residues and clean as needed.
2. Collect all equipment and return it to the laundry bag or the truck.
3. Fill out Bed Bug Service Report being sure to add comments as needed.
4. Attach information sheets as needed.
5. Fill out the furniture count sheet.
6. Communicate any cooperation issues with the client.
7. Turn in service ticket.

Standard Service Follow-up Service Protocol

1. Determine if this is an initial or follow up service by checking the paperwork.
2. Determine which chemical you are using. Check the chemical record in the service history on the ticket if you are unsure which chemical to use.
3. Prepare equipment; mix chemical, fill the steamer with water and start warming up the steamer, put a vacuum bag in the vacuum, make sure you have what you need for the job. Bring all equipment into the apartment.
4. Check for the follow-up survey if one is completed.
5. If the tenant is in the structure about to be serviced, see what information you can acquire from the tenant. It doesn't hurt to ask if they've seen any bugs or been bitten and how recent this happened. Also find out where the largest problem seems to be.
6. Be sure the apartment is vacant. Also, be sure there are no pets present and that any fish tanks have the air supply shut off and top sealed. If pets are present or fish tank is not prepared you may not apply chemicals, however you may work with the vacuum and steamer. In most situations we do not want tenants in the structure we are treating. In rare situations there may be an opportunity where the client cannot leave and we can figure out an alternative. Please contact a manager if such a rare situation arises.
7. Check to be sure there that the appropriate form of state pesticide notification is present (apartment sticker, placard, etc...). If not, install the appropriate notification.
8. Set the equipment in an area of the apartment unlikely to be infested (i.e. center of room away from furniture, in kitchen, in bathroom).

Bedrooms

1. Begin in the most infested bedroom.
2. Briefly inspect the mattress linens and comforters for bed bugs. If you find any, remove them using the vacuum.
3. After inspection, remove the mattress linens and seal (tie shut) in a 30-gal trash bag being careful not to contact linens any more than necessary. When sealing any trash bags, squeeze the air out of the bag and tie shut. If air enters the bag it is not sealed. Re-tie or use another bag.
4. Inspect the top/visible area of the encasement and vacuum off any bed bugs that you see. You are also going to steam the area where any evidence is noted as well as a two foot radius around that evidence. Also inspect the cover for rips and tears as you go. Repair rips with duct tape if possible or replace the cover if needed. The decision to repair or replace is the technicians judgment. Usually if there are tears larger than 6 inches or 5 or more smaller tears, the encasement should be replaced. If you have to replace the encasement you want to try to encase the encasement. Do not remove the encasement that is torn. You will stir up any live bugs inside.
5. Stand the mattress up against wall with the vacuumed side against the wall. Use two people if the mattress is larger than a twin. Only your hands should contact the mattress as you are moving it. Keep your body out from under the mattress so that any bed bugs that might drop off of mattress fall on floor and not on you.
6. Vacuum any bed bugs and/or eggs on bottom surface of mattress.
7. You are also going to steam the area where any evidence is noted as well as a two foot radius around that evidence.
8. Inspect and remove box spring linens and seal (tie shut) in 30-gal trash bag being careful not to contact linens any more than necessary. If bed bugs are present, remove them with a vacuum.

9. Inspect the top surface of the box spring encasement and remove any bed bugs with the vacuum.
10. You are also going to steam the area where any evidence is noted as well as a two foot radius around that evidence.
11. Stand box spring up against the wall with the vacuumed side (top) against the wall. Use two people if it is larger than a twin. Only your hands should contact the box spring as you are moving it. Keep your body out from under the box spring so that any bed bugs that might drop off of box spring fall on floor and not on you. Note, normally most of the bed bugs will be in the box spring so be extra careful.
12. Vacuum any bed bugs and/or eggs off of bottom of box spring encasement.
13. If pesticide label permits, apply liquid residual to the bottom of the box spring encasement.
14. Vacuum and steam the bed frame if needed.
15. Inspect the condition of the felt that was applied on to the bed frame. If they felt has been removed or damaged, replace the felt accordingly.
16. Inspect interception devices. If bugs are present document how many and empty bugs into the toilet or a garbage bag that should be disposed of in an outdoor trash can.
17. Fan spray top and bottom of bed frame.
18. If a headboard is present and there is evidence present, steam the entire headboard.
19. Fan spray back of headboard.
20. Fan spray front (inside) of headboard below the mattress level only.
21. If a footboard is present, steam the entire footboard.
22. Fan spray front of footboard.
23. Fan spray back (inside) of footboard below the mattress level only.
24. Fan spray along the inside of the bed rails.
25. Replace the interception devices, bed frame, box spring and mattress being careful not to rip the encasements.
26. Fan spray base boards. Be as thorough as possible, move any items in your way if it is possible or practical.
27. Fan spray wall-wall junctions.
28. If there is visible evidence along the wall-ceiling junction, fan spray the wall-ceiling junction. If no evidence is present, do not apply liquid residual to this area.
29. If you identify any cracks or crevices during the service that you think you missed on the initial or any subsequent service, crack and crevice those areas.
30. Remove drawers from nightstand and set aside. Inspect the exterior of the drawers for bed bugs as you go.
31. Inspect the interior of the nightstand for bed bugs and remove them accordingly and steam if possible.
32. Fan spray inside the nightstand framing out the interior by spraying all corners. If drawers do not remove, this step will not be completed.
33. Inspect the back of the nightstand for bed bugs and remove them accordingly and steam if possible.
34. Fan spray back of nightstand.
35. Turn over nightstand and inspect the bottom of the nightstand for bed bugs and remove them accordingly and steam if possible.
36. Fan spray bottom of nightstand.
37. Turn nightstand over and replace the drawers.
38. Repeat 30-37 with any other nightstands or drawered furniture such as a dresser.
39. For any other furniture inspect the furniture, and fan spray a band around the base.
40. If you can service the closet, fan spray any baseboard, wall-wall or wall-ceiling junction that is accessible.
41. At this point, suitcases should be searched for in the house. If suitcases are found, they should be inspected for bed bugs.
42. If the suitcase is full, make sure it is zippered closed and have the tenant empty it for our next service.
43. Inspect all seams, folds and edges on the suitcase.
44. If there are no bed bugs found on the suitcase, you can steam the suitcase if you feel uncomfortable with it, but otherwise it does not need to be steamed.
45. If bed bugs are found on the suitcase, the entire surface of the suitcase should be steam treated.
46. Repeat 1-45 for other bedrooms adjoining the infested room(s).

Living Room/Den (used on a regular basis)

1. First area to be serviced is the upholstered furniture. If bugs are found, vacuum any visible evidence of bugs off. If less than 5 bugs are found, steam a 2-foot radius around the area where the bugs were found. If more than 5 bugs are found, steam all seams, cracks and crevices.
2. Remove and carefully inspect the couch cushions paying special attention to the zipper seam and any other folds or crevices that may harbor bed bugs. When done, be sure that all zippers are closed.
3. Inspect all seams cracks and crevices on the surface of the couch. This includes the dust ruffle on the bottom edge of the couch, folds on the arms, folds on the cushions and any other area that could be prone to bed bugs.
4. If the sofa is a sleeper sofa, pull the sleeper section out.
5. Inspect the mattress of the sleeper sofa and the frame work of the sofa.
6. Vacuum any visible evidence from the mattress or frame.
7. You can consider encasing the mattress if it is infested. Be aware that the encasement will fit loosely but it may be a good option if the mattress is infested. Even though this is a follow-up service, if you find that the mattress is now infested and it wasn't previously, you can still encase the mattress.
8. If you chose not to encase the mattress and bed bug activity was noted, steam the mattress in the area of the bed bug activity paying attention to the ribbing on the edge of the mattress.
9. Fan spray the inside framework of the sleeper sofa and any other surface you can't get to once the couch is flipped over.
10. Place the mattress back on the frame and place the mattress back in the sofa.
11. Turn couch over using two people if larger than a love seat.
12. Inspect interception devices. If bugs are present document the number and dispose of the bugs in the toilet or in a garbage bag that should be disposed of in an outdoor trash can.
13. Inspect the bottom of the couch and if visible evidence is present vacuum it up and steam the edge of the dust cover regardless of the visible presence of bed bugs.
14. Fan spray bottom of couch, especially along edges.
15. Turn couch back over.
16. Fan spray around the base of the couch.
17. Replace the couch cushions.
18. Apply liquid residual to baseboard behind the upholstered item.
19. Repeat 30-37 in the bedroom protocol (inserting coffee tables where these steps say nightstands) with any coffee tables or other small furniture.
20. For any furniture that cannot or should not be moved, inspect the furniture, and fan spray a band around the base, inside, and behind the piece of furniture. For recliners, be sure to open recliner and treat into the internal areas that are now accessible.
21. Fan spray the baseboards where possible.
22. Fan spray wall-wall junctions.
23. If there is visible evidence along the wall-ceiling junction, fan spray the wall-ceiling junction. If no evidence is present, do not apply liquid residual to this area.

Other Areas (areas where bed bugs are not found or unlikely to occur)

1. Briefly inspect furniture present in these areas. Although they should not be infested, it is always possible that bugs have spread or are present in areas you do not expect. If you find an infestation in an unsuspecting room, treat the furniture in the room using the protocol above as best you can.
2. Fan spray baseboards and wall-wall junctions in uninfested areas (i.e. dining room, bathrooms, unfinished basement, etc.) being especially careful of wall coverings and spray drift onto belongings
3. Treat other areas of the residence as necessary following the above guidelines.

Final Actions

1. Inspect all surfaces for residues and clean as needed.
1. Collect all equipment and return it to the laundry bag or the truck.
2. Fill out Bed Bug Service Report being sure to add comments as needed.
3. Attach information sheets as needed.

4. Communicate any cooperation issues with client.
5. Turn in Bed Bug Service Report with ticket.

Low Level Service Protocol

The low level service protocol is exactly the same as the standard protocol for all sleeping furniture (couches, beds, etc..) and the furniture within 2 feet of those areas (nightstands, end tables, etc.). In addition to this furniture, you are also to service the wall-carpet junction and sockets and switchplates within 2 feet of the sleeping areas. All other furniture and areas within the home should be briefly inspected and liquid residual applied where label permits and can be done so in an efficient fashion.

Problem solving

One aspect of bed bug work that separates team leaders from team members is the ability to problem solve. Unlike many of the other pests we service, each bed bug account has the potential to be different. Different sleeping habits, different frequencies of visitors, different furniture settings and even different apartment layouts can drastically influence the way bed bugs behave in an account. The ability to recognize how different situations influence bed bug behavior is the only way to stay one step ahead of the bugs.

The first step in problem solving is identifying when you have a problem. As mentioned earlier in this document, the bed bug obstacles and triggers are those factors that point to a problem being present. If after three services the numbers of bugs have not declined by at least 90% when compared with the initial service, something atypical could be going on. Also, if a starting population is over 100 bugs, additional attention and services may need to be scheduled to solve the problem in a timely fashion. For further questions about identifying problems, please refer to the list of obstacles and triggers provided in this document.

The next aspect of problem solving is acquiring as much information about the account as possible. Even though a follow-up survey may have been left behind for you, you can always acquire a better understanding of the situation if you actually speak directly with the client. Some things you may want to understand are: when did the problem start, how frequently do they experience bites, where have they seen the bugs, has anyone traveled or brought furniture in within the past 6 months, etc... Your ultimate goal is to try to understand as much about the situation as you can. Asking simple questions can give you simple answers that shed a great deal of light on the situation.

The first thing you want to consider when problem solving an account is to make sure that the protocol is being followed step by step. Sometimes steps of the protocol were not followed on the initial service and the reason the bugs won't go away is because something that should have been serviced has not yet been serviced. Also, a dresser that is moderately large that is next to the bed may not have been flipped over because of its size, but due to its proximity to the bed, we may have to take the extra steps to flip the dresser over. You want to look for items that may not be part of the service protocol but because of their proximity to a sleeping area or because people are sleeping in an area they don't typically sleep in, the item may have to be incorporated into the service.

Another thing to take note of is the distribution of bugs. There have been many instances where we get the population of bugs down to the point where either us or the client are seeing one or two bugs in random places in the structure but we can't seem to get rid of them. If you are seeing a persistent low level infestation that is showing up randomly in the structure, you may want to consider surrounding units. This is a common occurrence when a surrounding unit is infested and that infestation is feeding the unit you are treating. One or two bugs will keep working their way over to your unit and tend to show up in random locations.

There are many different examples of problem solving that could be given but the main concept of problem solving is taking what you know about bed bug biology and behavior and trying to take the information you know about the account and make educated decisions on what you think is causing the control issues. Lastly, there are issues where you may not be able to figure out what is causing the issue. That being said, remember that bugs behave the way they do for a reason and in most instances, there's a logical explanation for the issues you are running into.