WS/GK-20

Primary Field Shelter

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CONDITIONAL WARRANTY

Western Shelter Systems warrants all products against defects in materials or workmanship for a period of one (1) year from date of manufacture. Component manufacturers' warranties may exceed that of Western Shelter.

No warranty is made or implied regarding the intended use of the product. Warranty does not cover damage caused by abuse, misuse, neglect or improper care by the end user in the application of the Western Shelter Systems product.

Western Shelter Systems will repair or replace any component deemed to be faulty from manufacture in the most efficient and timely means available to Western Shelter Systems.

Western Shelter Systems must authorize all claims prior to any action taken by the end user.

For immediate attention regarding any defective product, please phone Customer Support at 1-800-971-7201, 7am-330pm PST.

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A. WARNINGS

⚠ WARNING

**Follow all written and common sense safety procedures
when raising, striking, and occupying this shelter. Failure
to do so may result in property damage or personal injury.**

⚠ WARNING

All flammable materials or other items that are potential fire hazards must not be placed on or adjacent to the Shelter.

⚠ WARNING

Pinch hazard: Always wear gloves when raising or striking the shelter. Setup entails working with rigid metal components bearing significant weight.

B. SHELTER SPECIFICATIONS

Frame Specifications

All-aluminum frame constructed of 6063-T5 and 6061-T6 alloys with clear industrial anodized support members.

Octagonal frame configuration, pivoting from a central fixture. Roof trusses and uprights shall be one assembly.

Eave bars and base bars shall lock and unlock into the mainframe with integral spring-loaded buttons, requiring no tools for assembly. Eave bars and base bars shall have a clear anodized finish.

Eave bars shall be of an extruded design to accommodate rigid hook-and-loop fastening strips for the attachment of roof and sidewalls.

Upright legs shall lock either up or down with a steel captive locking pin. Legs shall have a flat foot with provisions for securing to the ground or floor surface. Legs shall provide a full 6-foot sidewall.

The frame assembly shall include vented weather caps.

Doors shall be aluminum framed and fabric covered.

Cover Specifications

The entire cover shall be of 14-oz vinyl-covered polyester scrim.

The material shall meet NFPA-701 standards for fire resistance.

The material shall contain ultra-violet ray and mildew inhibitors.

Roof panel sections shall be thermo-welded to insure against leakage.

All fabric security to the frame shall be by the hook-and-loop fastening process.

C. COMPONENT LIST

GK20, basic configuration:

1. Mainframe (1)

2. Eave bars with fastening strips (8)

3. Base bars without fastening strips (8)

4. Plastic vent caps (1)

5. Double doors (1)

6. Threshold ramps (1)

7. Vinyl roof panel (1)

8. Insulated roof panel (1)
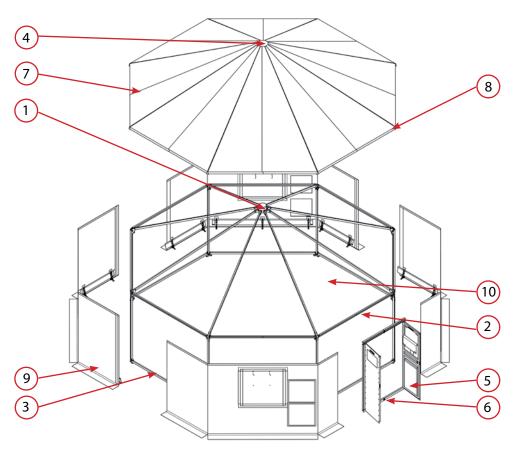
9. Vinyl wall panels (4)

10. Vinyl floor panel (1)

GK20, common accessories:

Insulated wall panels (4)

Fluorescent ights with dimmer sleeves (4)

Wiring harness (2)

High wind stake kit with straps (1)

D. ERECTING THE GK20 SHELTER

1. Unpack and inventory shelter components

➤In a clear staging area, unpack and inventory the shelter components. Check components against case labels or the component list in this manual to ensure you have all required parts.

➤Note: Component list reflects one GK20 shelter in its basic configuration. Your shelter system may include additional fixtures or accessories.

2. Mainframe assembly

➤Locate and prepare your shelter site. Stand up the mainframe. Remove the web strap from around its base and set the strap aside. Strap may be left on the frame if permanently attached.

➤Open up the mainframe until the trusses are fully unfolded.

➤This is best accomplished with four people, each holding two trusses.

➤Depress the locking button on the underside of each truss to extend them. The lower locking button will snap into place when the trusses have reached their full extension.

➤Secure eight eave bars between the roof trusses, with the black fastening strip facing out. If the shelter is on uneven ground, you may have to adjust the frame slightly.

➤To drop the shelter legs, gently squeeze the folded legs and roof trusses together to loosen their chained locking pins. Remove the pins and gently lower all the shelter legs to the ground. Do not stand up the shelter at this point.

3. Roof assembly

➤Remove the insulated roof panel from its bag and place it on the center of the frame. Position the hole in the panel over the center vent. Unroll the insulated panel over the frame.

➤**Note:** If setting up in windy conditions, unroll the side of the insulated panel facing into the wind first. You may also lightly tack the panel down to prevent unwanted movement.

➤Remove the vinyl roof panel from its bag and place it on the center ridge line of the frame. Remove and store the protective vinyl square covering the vent collar. Unroll the vinyl roof panel over the insulated roof panel.

> **Note:** Do not secure either of the roof panels to the eave bars at this point.

> Make sure the collar is centered on the center vent of the frame.

> To install the vent cap, pull on the locking pin, align the cap with the flange pipe and push the cap down until it meets the collar. Release the pin and rotate the vent cap until the pin snaps into place.

4. Raising the frame

> With two people along one side of the shelter frame, gently raise that side, allowing the legs to fold outward. Be sure to keep fingers clear of the leg hinges as they unfold. If setting up in windy conditions, raise the downwind side first.

> Lock two legs into place using the captive locking pins.

> Raise the opposite side of the shelter, allowing the legs to fold down. Lock two more legs into place.

> Now extend and lock the for remaining legs into place, using the captive locking pins.

5. The floor and basebars

> The floor panel is designed to form a weather-tight seal with the vinyl walls, protecting the shelter interior against wind and moisture.

> Unroll the floor panel down the length of the shelter.

> Unfold the floor panel. Ensure that the black fastening strips around the perimeter are facing up. Center the floor within the shelter frame.

> Working around the perimeter of the shelter, gently lift the frame and pull the floor panel under it. Center the shelter legs on the vinyl welds at each corner.

➢ Attach all base bars to the lower legs. You may have to lift or adjust the frame to find a fit. Be sure to keep the floor flat and tight while installing the base bars. The frame will adjust to its true shape as the base bars are locked into position.

6. Hanging the door

➢ The GK20 shelter includes one double door, which can be installed on any side of the frame.

➢ Remove the door from its protective vinyl bag. Detach the insulated and vinyl roof panel from the eave bar where you will install the door.

➢ Unfold the door and hook it over an eave bar. The bottom of the door fits over the base bar. Make sure both top and bottom of the doorframe are firmly attached.

➢ Center the door frame by aligning the center of the frame with the "center door" sticker on the eave bar.

➢ Open the door completely and install the threshold ramp. It will fit snugly over the doorframe.

➢ Reattach the insulated roof panel to the doorframe. Align the seam in the insulated roof panel with the center of the doorframe.

7. Connecting the Insulation Roof Panel

➢ Attach the insulated roof panel to the eave bars using the fastening strips. Align the seams on the insulation panel with the roof trusses. The insulation panel should completely and evenly overlap the eaves by about ½ inch. The insulated roof is designed to hang somewhat loosely, providing a layer of trapped air between the vinyl roof and shelter interior.

➢ Do not attach the vinyl roof at this time. It will be attached after the walls are installed.

➤GateKeeper walls are composed of four sections. Each is labeled "Right of Door" or "Left of Door," referring to the position of the panel when viewed from outside the shelter, facing the door.

➤If your shelter includes insulated wall panels, hang them first. The procedure is identical for both vinyl and insulated walls.

➤Loosely attach one end of a wall panel to the door frame. Leave some overlap on the door so the wall will be easier to align later. Work around the shelter, tacking the wall up loosely. Get the entire wall tacked up loosely before you begin to tighten it.

➤Starting at the door, align the black fastening strip on the wall with the corresponding strip on the door. In small sections, pull the wall panel as tightly as possible around the shelter. When complete, repeat this process with the other panels.

➤The wall panels end in a large fastening strip. Each pair of wall sections should overlap somewhat, but complete overlap is not necessary. Pull the two wall sections together as tightly as possible. You may have to go around and retighten the wall panels to ensure a good fit. The tighter the fit, the stronger and quieter the shelter.

➤If you have just installed your insulated wall panels, repeat the above steps for the vinyl wall panels. If you just installed the vinyl wall panels, move on to the next step.

➤Pull the vinyl roof panel down over the vinyl wall panels, aligning the seams in the vinyl roof panel with the roof trusses. Start at the corners, pulling down firming to get a good attachment. Then secure the middle of each wall section and work back toward the corners.
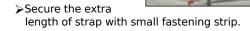
8. High-wind tiedowns

➤The high-wind tiedowns can now be hooked onto the shelter legs. Always stake down your shelter, even if you do not anticipate windy conditions.

➤Detach just the corner of the vinyl roof panel where you will install the tiedown. It is easy to misalign the tiedown hooks, so ensure they go all the way over the two eave bars and to either side of the shelter leg. The hook will fit snugly without a gap when fitted properly.

➤Attach the tiedown strap to a stake, water barrel, sandbag, or other solid object. Apply light tension to the strap, lock the tensioning mechanism, then pull tight.

➤Clip the small attached hook to the

metal D- ring on the corner of the vinyl roof panel.

➤Secure the extra length of strap with small fastening strip.

9. Finishing the shelter

➤A series of straps are attached to the bottom of each wall panel. Working from

inside the shelter, thread these straps under the nearest base bar and connect. Continue around the shelter.

➤Secure the double-D ring wall straps by each door. First buckle the strap, then thread the strap through the d-rings and pull tight.

➤Attach the fastening strip on either side of the door to form a seal under the threshold ramp.

➤Outside the shelter, create a burm in the floor using the black straps located at each corner of the floor.

➤Attach the floor to the fastening strips on base of each wall panel. It is not necessary to pull the wall and floor together tightly.

E. STRIKING THE GK20 SHELTER

➢The GK20 must be repacked properly and in a certain order to ensure the shelter is ready for deployment the next time it is needed.

➢Clean and dry all wall, roof, and floor panels before folding and bagging them for storage. If this is not practical in the field, all panels should be unpacked, cleaned, dried, and repacked as soon as possible.

1. Remove wall panels

➢Working around the inside perimeter of the shelter floor, unsnap the web straps connecting the walls to the frame and thread them back under the frame.

➢Working around the outside perimeter of the roof, separate the fastening strip connecting the roof to the vinyl walls.

➢Unbuckle the corner retaining straps so the floor panel lays flat.

➢Starting at one of the doors, pull the vinyl wall panels away from the shelter. Fold them hand over hand to prevent the panels from touching the ground. As you remove panels, place them on the shelter floor for folding.

➢Remove the four vinyl panels and four insulated panels (if included) and place them inside the shelter.

➢Open the door and remove the threshold ramp. Remove door from the frame, fold in half, and store in the green vinyl door bag.

2. Fold wall panels

➢All GK20 wall panels are the same size and are folded the same way. Repeat the following procedure for each of the shelter's four wall vinyl panels.

➢Western Shelter Systems recommends folding wall panels on the shelter floor.

➢Begin with the wall panel spread flat, with the exterior facing up.

➢Make sure window and duct panels are securely fastened.

➢Fold up the lower third of the wall panel (with the floor straps).

➢Fold the lower half of the wall panel up over the top half.

➢Starting at the end opposite from the "right of door" or "left of door" label, roll up the wall panel tightly.

➢Continue rolling until the wall section is in one compact package. Fold the remaining three vinyl wall panels in the same way, Return the wall panels to their labeled field bags for transport and storage.

➢The insulated wall panels are folded in a similar way, except you will want to start with the interior (white) side of insulation facing upwards. Then fold in thirds starting from the bottom edge, and roll up identically to the vinyl walls. Return the insulated wall panels to their vinyl storage bags.

3. Fold floor panel

➢Remove and set aside all the shelter base bars.

➢Move the shelter legs off of the floor, so it can be folded freely.

➢Begin with the floor spread flat.

➤ Fold opposite sides of the floor toward the middle to form a rectangle, as pictured.

➤ Fold in the two sides again so they meet in the middle of the floor.

➤ Fold the sides to the middle a third time.

➤ Fold one side over the opposite side.

➤ Working from both ends, fold up the floor panel in arm-length sections until they meet in the middle. Fold one end over the other to finish folding the floor.

➤ Place the folded floor panel in its field bag for storage and transport.

➤ Alternate folding method: For kits with hard cases, it will be easier to store the floor simply folded in thirds the long way, rather than rolled up.

4. Lowering the frame

➤ Remove the captive locking pins from four legs at opposite ends of the shelter.

➤ Fold the four unlocked legs up and nest them together against the roof truss. Squeeze the leg and roof truss together to make it easier to insert the locking pin. Replace the captive pin to lock them in place. The ends of the frame will sag, but the does not damage the frame.

➤ With two people along a side of the shelter frame, remove the captive locking pins from two of the remaining legs. Gently lower one side of the shelter to the ground. In windy conditions, lower the windward side first.

➤Remove the captive locking pins from the last two legs on the other side of the frame and gently lower it to the ground.

5. Remove vent cap

➤Working around the perimeter of the shelter, separate both the vinyl roof panel and the insulated roof panel from the frame. Push the roof panels up the frame so you can access the vent caps.

➤Pull out on the locking pin and lift the vent cap off the center vent.

➤To prevent damage to the roof fabric, replace the protective vinyl square on top of the vent collar.

6. Fold roof panels

➤Both roof panels are folded the same way. Repeat the folding procedure for both vinyl and insulated roof panels.

➤Western Shelter Systems recommends folding the roof panels while still on the frame. This method will be easier, and gentler to the roof panels than moving them elsewhere.

➤Begin with the panels rolled fully down the frame.

➤Fold opposite sides of the roof panel over the vent collar to form a rectangle. One side should overlap the vent, and the other side brought up to meet it.

➤Fold both sides up to the vent collars again.

➤Fold both sides up to the vent collars a third time.

➤Fold one side over the top, making a single roll with the vent collar centered on the bottom.

➤Begin folding both ends toward the center in arm-length sections.

➤At the last fold, bring one end of the panel up over the opposite end to form one complete package.

➢ Place the folded panel in its field bag for transport and storage.

➢ The insulated roof panel folds in the same manner.

7. Strike the Frame

➢ Traveling around the perimeter of the frame, nest and hold each leg bar up against its roof truss. While squeezing the leg and roof truss together, insert the locking pin to lock them together.

➢ Remove all eave bars from the mainframe. Place them in a field bag or case.

➢ Depress the lower locking button on the underside of each roof truss. Slide the trusses back toward the key flange and depress the upper locking buttons to secure them in place.

➢ Gather all of the trusses together, and stand the center section up. Tighten the strap around its base to secure the trusses. To help the frame fit better, you may stagger the trusses slightly, so they fold up tighter.

➢ Storage cases and bags vary depending on your specific setup. Please refer to the printed labels for each case's content.

F. TROUBLESHOOTING

1. A frame connection will not click into place.

➤Be sure the connection point is free of debris.

➤Gently lift the frame to allow it to find a natural resting position. Lifting to relieve pressure on the connections allows them to fit more easily.

➤Firmly tap the connection point with your palm.

➤If a button lock is not popping up, try flexing the frame in various directions until it clicks into place.

➤Do not use liquid-based lubricants on frame connections, as this will attract more dust and debris, making the connection less functional in the future. Compressed air may be used if necessary to clean connection points.

2. Wall panels will not meet in the center.

➤Vinyl stretches to varying degrees depending on ambient temperature. The centers of the wall panels may not fully overlap in all conditions, but it should be possible to overlap the walls somewhat in all conditions.

➤If the wall sections are not meeting, re-stretch the vinyl starting from the doorframe. Stretch the vinyl in small sections as you work along the wall.

➤After several years, vinyl ages and can harden and lose its elasticity. Eventually, the vinyl walls of your shelter may need to be replaced if they are cracking or not stretching enough to complete the shelter.

3. Roof panel will not fit fully over the frame

➤When securing the roof panel, start by securing opposite corners of the roof panel first. Be sure the roof collars are centered on the key flanges.

➤As vinyl ages it can harden and lose its elasticity. Eventually, the vinyl walls of your shelter may need to be replaced if they are cracking or not stretching enough to complete the shelter.

4. Torn or worn-out vinyl

➤See the Vinyl Repair section (page 20) for information on how to fix minor tears and holes in your vinyl panels.

5. Shelter components will not fit in their cases.

➤Moisture or dirt can add volume to the walls, floor and roof of the shelter. Be sure all surfaces are as clean as possible under the conditions.

➤Push as much air as possible out of the walls, roof, and floor as you are folding them.

➤Pack rigid items, such as base bars, in the bottom of cases, then fit softer items around them.

➤Try changing the orientation of bulky components, such as the end frame assemblies.

➤Have several people put their weight on the case lid and secure the latches.

G. TIPS, CARE, AND REPAIR

➢Western Shelter Systems provides protective bags for shipping and storage. Do not drag these bags on the ground.

➢Replacing the components in the proper bags or aluminum cases ensures all parts are accounted for and ready for the next deployment.

➢Cleaning and drying of your shelter system will extend the life of the shelter and eliminate health issues associated with particulate buildup. Maintenance is best performed when the shelter is being taken down. If the shelter must be packed when wet and/or dusty, It is VERY important that the shelter is cleaned and dried as soon as possible.

➢Utilize the following steps to ensure that proper care and maintenance has been performed.

1. Vinyl Panels (roof, walls, and floor)

❑Clean and fold on a clean surface, such as the shelter floor. Sweep off loose debris. Remove debris from hook and loop fasteners using a rigid brush.

❑Clean with a mild solution such as Simple Green™, Tilex™, or 10% bleach water solution.

❑Do not saturate the fabric, especially the hook and loop fastener, which tends to retain water even after prolonged drying times.

❑Dry thoroughly using towels, leaf blowers or sunlight.

2 Insulation Panels (roof & walls)

❑Clean and fold on a clean surface, such as the shelter floor. Sweep off loose debris. Remove debris from hook and loop fasteners using a rigid brush.

❑Clean with a mild solution such as Simple Green™, Tilex™, or 10% bleach water solution.

❑Do not saturate the fabric, especially the hook and loop fastener, which tends to retain water even after prolonged drying times.

❑Do not spray cleaner directly on fabric as it could soak into the air bubbles on the fabric, leading to mold and mildew. Spray cleaner on shop towels and wipe to clean.

❑Never pressure wash the insulation panels.

❑Dry thoroughly using towels, leaf blowers or sunlight.

➢**Note:** Stains can occur on the white insulation fabric. These stains, once cleaned, are purely cosmetic and do not indicate product failure or health risks.

3. Main Frame, Eave & Base Bars

❑Brush off loose debris. Clean dirt and debris out of the ends of the bars and legs. Wipe down with a mild solution such as Simple Green™, Tilex™ or a 10% bleach water solution.

❑Dry thoroughly using towels, leaf blowers or sunlight.

4. Hinge Points & Pull Pins

❑Keep moving parts free of debris and dust. Disassemble and clean if binding occurs.

❑Do not use liquid lubricant on moving parts, as this will cause fouling.

5. Product Cases & Lids

❑ Brush off loose debris. Wipe down with a mild solution such as Simple Green™, Tilex™ or a 10% bleach water solution.

❑ Dry thoroughly using towels, leaf blowers or sunlight, making sure to remove and dry any padding material installed in the bottom of the case.

❑ Clean dirt and debris out.

6. Vinyl Repair

➢ All units come standard with a vinyl repair kit. Each kit contains a can of vinyl cement and a supply of patching material.

❑ To repair a damaged area, thoroughly clean with soap and water.

❑ Allow to dry completely.

❑ Cut out a piece of vinyl fabric slightly larger than the damaged area.

❑ Once completely dry, apply a liberal amount of vinyl cement to both the repair area and the patch.

❑ Allow the cement to become dry to the touch and place the patch over the damaged area. Press the patch firmly to ensure complete contact.

7. Replacement Parts and Accessories

➢ Western Shelter Systems offers a full line of replacement parts, as well as a wide range of optional accessories for all GateKeeper shelters. To view accessories, visit www.westernshelter.com