



CABINET CONSTRUCTION ANALYSIS

With over 25 year's experience, *Odyssey cabinet systems* are constructed from the finest materials and workmanship in the industry. This analysis and comparison is designed not to criticize any particular manufacturer but to educate you on quality manufacturing techniques and materials based on our over 25 years manufacturing custom cabinet systems for emergency service vehicles. The following are quality and material issues to be aware of when looking at other manufacturers of similar products:

CONSTRUCTION

1. **Screw together knock down construction:** This is a very inexpensive and least sturdy way to construct a cabinet. Knock down cabinets are primarily used for inexpensive home and office furniture to keep the production and assembly cost down for the manufacturer, shipping and storage for the distributor. Typically edges are done in advance along with screws and connectors are showing attaching the components together. This method in a vehicle application is subject to temperature and humidity changes not to mention the vibrations which may weaken in a relatively short time. Cosmetically is not as appealing and the user will probably have to tighten the screws and connectors on a regular basis providing you can access them after the cabinet is installed into a vehicle.
2. **Aluminum edges:** This is an option to trim edges but will show wear and damage easily. Another issue is trim must be cut, mitered and screwed into place. If the screws loosen the molding will catch on equipment and can be torn off or damage the equipment or personnel. The heavy duty 1/8" thick PVC bumper strip used on Odyssey cabinets is installed into a machined slot on the edge of the wood and will resist bangs and bumps for many years without showing wear or damage. If replacement is needed the material is available by the foot and is installed with a hammer and utility knife.
3. **Standard plywood:** Standard plywood comes in many grades found in most lumber Yards and home centers. The special MDO (Medium Density Overlay) plywood used in Odyssey cabinets is the highest quality and most expensive plywood on the market. MDO plywood is actually better than marine plywood designed for the high quality cabinet industry and for accepting the laminating process the best. We have had sample pieces in a container of water for 2 years and show no deterioration.
4. **Particle and MDF board :** This is probably the worst choice of material for any cabinet that will be used in a vehicle. Manufactured from wood particles, dust and glue particle board is twice as heavy, vibrations will weaken all seams and moisture will kill it within days. MDF (Medium Density Fiberboard) is manufactured from wood fibers glued together under pressure and **contains urea formaldehyde**. Unless all surfaces are painted well or laminated, not carpeted the material will always emit fumes and be a health hazard.



DRAWERS

1. **Drawer slides:** Cabinet makers have many brands and quality of slides to choose from. Inexpensive slides found in kitchens and bathrooms are usually light duty, not full extension. These slides are not capable of withstanding emergency service use and the vibrations subject to vehicle applications. A high quality slide would be manufactured by Accuride or Hetrich and have a minimum capacity of 100 to 150 pounds for small drawers and 200 to 500 pounds on drawers longer than 30". Beware of off shore no name slides. If they fail the drawer may get stuck in the closed or open position or worse fall out and drop on your feet.
2. **No drawer slides:** This is an inexpensive way to build a cabinet since the slides are usually the most expensive component. Good quality heavy duty slides offer 100% extension allowing access to the back of the drawer without interference. Without these slides the drawer has to rely on a cantilever effect usually leaving the last 25% to 30% of the drawer hard to access. The drawer may glide on a material rubbing against another material which can cause wear. If the wood swells or warps the drawer may stop operating. Slides feature ball bearings so there will be many years of trouble free operation.
3. **Light duty slides on wide drawers:** Wide drawers require heavy duty slides. Using a light duty slide on drawers over 24" to 30" wide can cause racking and rough operation. The slide used on a standard file drawer and a wide lateral drawer for your office are two different slides.
4. **Large wood drawers using 1/2" material:** When a customer requires a large drawer, it is usually because they want to store a lot of supplies or equipment. Heavy equipment can destroy even the best built wood drawer. When heavy equipment is going to be stored in a drawer we suggest heavy duty ball bearing slides and drawers constructed of a minimum of 1/8" or 3/16" aluminum with fully welded corners.

FINISHES

1. **Painted or coated finishes:** Depending on the use of the cabinet all wood should be laminated. A Formica or similar laminate, heavy duty FRP fiberglass panels, carpet or commercial floor covering should always be used. Laminating the wood will protect it from the elements and temperature changes. Painted or coated finishes once dented will expose the bare wood and can cause problems under the finish.
2. **Automotive fuzzy carpet covering:** This material is an easy material to use because of its elasticity but is not as durable as a good marine carpet covering. This material is prone to de-lamination at seams and is difficult to clean.



3. **Hardwood faces:** While very attractive this is an expensive option. Odyssey can offer face panels in finished hardwoods if requested and also Corian but has chosen to use HDP composite. The HDP material is unbreakable, can be machined to a nice edge that will not split and offer a durable finish for many years of operation. We heard of one department who had to explain to the taxpayers why the cabinet in their command vehicle was nicer than his living room furniture.
4. **Clear Lucite door faces:** If clear doors are to be used make sure it is not a standard Lucite but a Polycarbonate material such as Lexan. Standard Lucite is breakable and better suited as removable drawer dividers and command board covers. .

HARDWARE

1. **Pressure or spring catches:** All latches and catches should be of a style that will manually latch or automatically latch when closed. The pressure clips and magnetic latches found in house cabinets are not functional in vehicle applications and will spring open in an impact allowing equipment to become projectiles.

SLIDE OUT UNITS

1. **Large and long pull out systems:** For pick up truck and light rescue applications where you can not access the back side of the cabinet this is a good application. Use caution in the material used for this application due to the weight of the slide out unit and the equipment to be stored. While having capacities up to 2,000 pounds, parking the vehicle on an incline or steep hill you may not be able to pull the unit out, or when released may chase you down the hill then you will need a full crew to slide the unit back into the vehicle. For SUV applications Odyssey offers dual access cabinets so you can access primary gear from the rear doors and back up or secondary equipment by folding the second split rear seat. This eliminates losing valuable storage space by adding 6" to 8" of valuable height, the weight of a steel slide unit and possible vibrations and rattling while driving. When a full slide out is required Odyssey offers a lightweight steel slide system that only requires 3" to 4" of height and using composite and aluminum will fabricate a compartment system to best suit your needs while being weight conscience. Utilizing full depth drawers up to 72" deep allows accessibility to specific equipment by pulling out only one or two drawers and releasing the entire unit only when equipment to the rear is required.



INSTALLATION

1. **Securing the cabinet to the vehicle:** Every vehicle is different and attachment is very important. Every Odyssey cabinet system includes hardware and directions for the cabinet to be bolted through the vehicle floor using nylon locking hardware. For specific vehicles like the Explorer, Expedition and the Durango Odyssey offers custom mounting platforms. Each platform is vehicle specific and includes brackets that utilize the factory rear seat mounts for maximum strength.
2. **Steel undercarriage slides:** For slide out applications of 500 pounds or greater an undercarriage slide should be used. We usually suggest designing a cabinet system where drawers and trays slide out to you where you do not have to slide the entire unit out every time you want to access that equipment.

IN CONCLUSION

We hope that this report gives you a better understanding of vehicle related cabinet systems. If these guidelines are followed you will have a quality cabinet system that will offer years of service. Odyssey has been manufacturing custom response conversions since 1979 and has gained the experience necessary to offer only the best product to our customers. Cabinet manufacturers that have evolved from industries that have not built full turn key conversions usually lack the experience of the effects on a cabinet on a vehicle and should not have to learn at your expense. There are many imitations out there, the old saying that "You get what you pay for" is true here and is usually more expensive in the long run.

If you have any questions please contact the Odyssey sales department at 800-535-9441 or on the web at www.odysseyauto.com