

DRAG-A-BOX
BRAND
MATERIAL SPREADERS

MODEL CE 7-12

OPERATION INSTRUCTIONS
&
OWNERS MANUAL

BY
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OPERATORS INSTRUCTIONS & OWNERS MANUAL

These instructions cover the assembly and operation of a Drag-A-Box brand, Contractors Model, Expandable 7' to 12', manually operated Material Spreader. These are some of the features available on this machine:

- Light weight (less than 1200 Lbs) including all components needed.
- All steel construction. The hitch components are made of ½" Plate, the essential components such as brackets and skids are made of ¼" Plate, and nothing is less than 3/16" thick. A solid, heavy duty machine designed for years of use in most situations.
- Operators can ride on the machine during use. A "Walk on Screed" at the rear of the Material Spreader can be used as a bridge to cross over material being spread, or as a station for operators to ride while they keep sticky material such as asphalt evenly distributed in the material spreader with rakes and shovels.
- Easy to adjust the thickness of material, from 0" up to 8". Heavy duty hand operated screw jacks adjust the thickness of the material that exits the machine. The operators can adjust each side of the machine independently to create a "slope" to the material being spread, and it is possible to adjust the thickness while the machine is being used.
- Easy to adjust the width of material, from 7' up to 12'. Four heavy duty hand operated screw jacks adjust the width of the material that exits the machine. The width should NOT be adjusted while the machine is full of material and in use.
- Can be used on more than one towing vehicle. Just add mounting brackets to any available towing vehicle and quickly switch between each vehicle in 5 minutes or less. This way more than one truck could be used to haul material to the work site, increasing productivity.
- Easy to clean. There are no internal surfaces that require disassembly to maintain.
- Easy to repair. Parts that can break or wear out have been designed to be easy to replace if possible. And the repairs can be done at the job site with no special tools or welding.
- Weather safe. The all mechanical design means there are no electric or hydraulic components to be damaged by heat and cold. A battery operated winch is mounted on a separate bracket and should be kept indoors.
- Tough powder coat paint finish. This type of baked on finish is temperature and chemical resistant, and is harder to chip than most paint or epoxy finishes.

- The machine can be removed from the towing vehicle when not in use. Unlike some machines that require a dedicated vehicle to use or have large and intrusive mounting systems, this material spreader can be completely removed from the towing vehicle except for a bracket that permanently mounts under the frame at the rear of the towing vehicle, out of the way.
- Easy to transport. The Material Spreader was designed to be carried to the work site (check local laws) mounted to the rear of the towing vehicle. The Spreader must be adjusted to less than 8' in width, lifted up off of the ground and folded to the rear of the towing vehicle. When securely chained in this position it can usually be transported without needing a trailer.
- All terrain. The Spreader slides on wide skids to prevent it from sinking in soft ground or gravel.
- Provides a smooth surface finish. It is light weight and uses the weight of the material in it and a “wedging action” to press the screed to the ground. That way a light machine can efficiently create a smooth material finish.
- Fixes ground imperfections. There is no need to fill pot holes or ruts in most roads before using the Material Spreader. The hopper design lets material be used “as needed” to fill in an irregular surface, and the screed cuts off the excess. That allows your work to be done in one pass saving time.
- Can be offset on either side of the towing vehicle. Each side of the Material Spreader can be adjusted in width independently. That allows the material to be spread up to 2 ½ feet more on one side of the towing vehicle than the other. That helps the operator extend the width of a road by allowing the truck to drive on the existing road, with the depth of material on the road adjusted to 0” of material. The other side of the material spreader extends off the side of the road, filling in what is needed to raise the road even with the current road height.
- Optional baffle inserts can let the Material spreader apply custom widths of material. Path's less than 7' and multiple small paths' are possible this way.

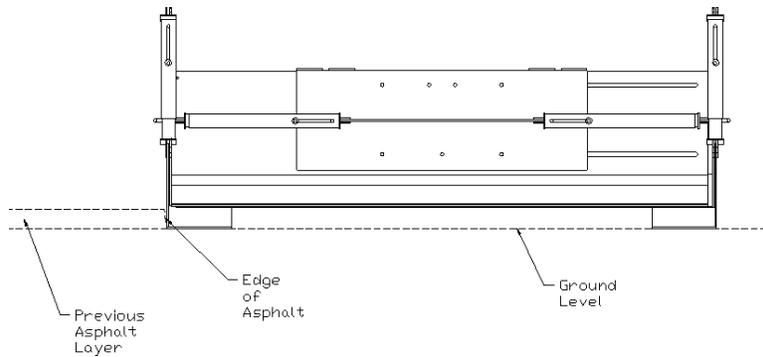


FIGURE 1 – SIDE BY SIDE

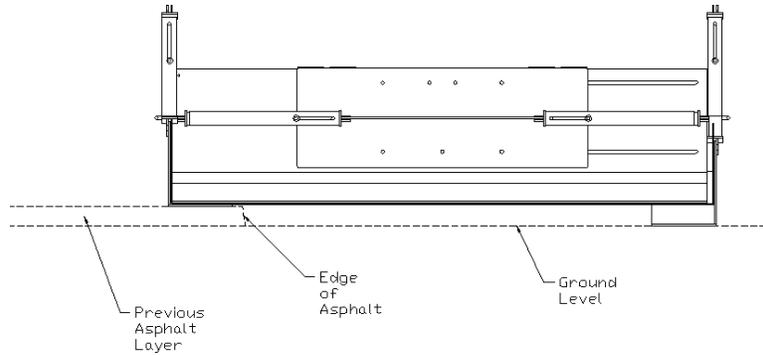


FIGURE 2 – OVERLAP

- Allows material to be applied in side by side paths. In situations such as paving a parking lot or spreading topsoil on a new yard, many side by side layers of material will need to be applied with no gap between each layer. There are 2 methods of accomplishing this. It is possible for an experienced driver to spread soft materials, such as sand, the thickness of the side of the material spreader apart from the previous layer. The side of the skid is only $\frac{1}{4}$ " thick, making very little gap to fill in (see FIGURE 1). Hard materials such as dirt and asphalt can be spread by even a poor driver with no gap between layers by pulling one skid of the material spreader up on to the last layer of material that was spread. Adjust the depth of material on that skid to 0", and the Material Spreader will now match the next layer of material to the edge and thickness of the last layer. (see FIGURE 2)

This Material Spreader was designed to do almost anything a large, hydraulic powered, asphalt machine can do, but for much less money. It also has many added features not available on our competitors' hydraulic machines, such as being easy to attach to small trucks, the ability to lay high quality side by side paths' without constant practice, the ability to spread many different materials, it is easy to transport, has the ability to operate with small crews, and ease of maintenance.

These instructions assume that the operators of the Material Spreader are trained contractors, the assemblers are trained mechanics, and the installers are trained fabricators. All construction equipment is dangerous and the operators assume that responsibility. We have made the equipment as safe as possible, but no safety feature is as important as a well trained crew of operators that understand what they are doing, take their time, and are constantly looking for problems and solving them before someone gets hurt. All equipment wears out with use. Inspect everything. Look for loose bolts, frayed cables, worn components, and replace anything that needs fixed BEFORE it breaks. Keep everything clean. Clean equipment works better and dirt hides damaged parts.

This is a versatile piece of equipment. It has been designed to do many different jobs, and can be adapted to do many things we never thought of. It can be attached to almost any wheeled or tracked vehicle, such as dump trucks, farm tractors, skid loaders, and track loaders. Because of the variations possible in vehicle types, modifications, and materials being spread, some work will be required by the user to fit the equipment to their situation. The instructions may seem detailed, but there is no way to include everything you need to know or how to do everything, and we won't try. Our goal with this instruction manual is to give the operator suggestions, but every situation is different. It is up to you to mount the equipment properly and figure out how to use it safely with your truck, using your crew, while using the material spreader for whatever job you need it for.

The Material Spreader can be used in many ways and with materials such as asphalt, gravel, concrete, dirt, sand, wood chips, fertilizer, etc. We recommend that the operators train themselves on the proper setup and use of the Material Spreader using a cheap and easy to remove material such as fine gravel or sand until they are confident that they can handle the spreader properly. There are many aspects to laying asphalt properly such as temperature, surface preparation, asphalt formulation, etc. This manual is not to teach you how to lay asphalt, so it is recommended that you receive training from a professional on how to do this properly.

SUMMARY OF OPERATORS INSTRUCTIONS

- 1 DELIVERY – Completely inspect the Material Spreader as soon as it is delivered. Check all components for damage during shipping. Compare the SHIPPING CHECKLIST with what has been delivered to make sure no items have been lost. If there has been any damage or if any items are missing, fill out the appropriate

claim paperwork with the motor carrier for reimbursement and contact J. Pyott & Associates for service.

- 2 ASSEMBLY – The Material Spreader components will require some assembly before use. The three major sub assemblies are the BATTERY BOX & LIFT BRACKET assembly, the CONTRACTORS MODEL 7' TO 12' MATERIAL SPREADER assembly, and the UNIVERSAL HITCH assembly. The assembly of each of these items is described on a separate instruction list.
- 3 PURCHASED PARTS – A few items have not been included with the Material Spreader and must be purchased separately. The BATTERY BOX & LIFT BRACKET assembly will require a marine quality deep cycle battery of at least 750 CCA to power the winch. The CONTRACTORS MODEL 7' TO 12' MATERIAL SPREADER assembly will require an environmentally safe lubricant and cleaner to prevent materials such as asphalt from sticking to the components. In the past, it has been industry standard to use Diesel Fuel to clean and lubricate asphalt spreaders, but J. Pyott & Associates does not recommend this practice since it is not environmentally safe. Any local asphalt manufacturing plant will use, and should sell, a cleaner for its own trucks and equipment. If you can not find a vendor, please ask J. Pyott & Associates for pricing or vendors. Finally, the UNIVERSAL HITCH ASSEMBLY will need to be mounted to the towing vehicle at the proper height. This may require fabricating a mount to attach between the vehicle frame and the Truck Hitch Mounting Bracket. This will require purchasing metal such as 4" C-Channel or pre-cut 3/8" mild steel plate to make this mount. The type of metal used and its dimensions will be determined by the truck being used and the position that you mount the Truck Hitch Mounting Bracket to the towing vehicle (See the installation instructions).
- 4 INSTALLATION – The components must be installed to the towing vehicle before use. The four major sub assemblies to be installed are the BATTERY BOX & LIFT BRACKET assembly, the CONTRACTORS MODEL 7' TO 12' MATERIAL SPREADER assembly, the TOW BAR assembly, and the UNIVERSAL HITCH assembly. The installation of each of these components is described on a separate list.
- 5 CREW – The operation of the material spreader will require a minimum of two people. A tow vehicle operator and a material spreader operator. The most work can be achieved with an

operating crew of five. One tow vehicle operator, one crew leader (material spreader operator), one material spreader operator assistant, and two loopers (shovel and rake operators). Large jobs using asphalt may require an additional person to operate a roller.

6 SET UP – For this exercise, we will be describing how to prepare and set up the material spreader to lay a three inch asphalt layer that is 10' in width. We are assuming that the Material Spreader had to be transported to the work site on the rear of a standard dump truck. From the transport position the winch would be used to lower the rear of the material spreader into a horizontal position while it is still hanging from the rear of the truck. Safely chain the spreader into this position (See Figure) and release the winch. Use a wrench to loosen the three front bolts and the seven rear bolts that clamp the Material Spreader together. Using one operator to twist the Extension Jack on the front left side, and one operator to twist the Extension Jack on the rear left side, crank each of them counter-clockwise to make the left side of the box start to expand outwards, making the box wider. Continue cranking, being careful not to let one operator crank his side of the spreader more than the other, until the material spreader measures 60" from the center lift bracket to the left side plate of the spreader. Check this measurement front and rear. Have both operators move to the front right side and the rear right side and crank each of these Extension Jacks until the right side measures 60" from the lift bracket in the center of the spreader to the right side plate of the spreader. The Material Spreader should now have an inside measurement of nearly 120" (10 feet). The operators can now adjust the two Lift Jacks at the rear of the material spreader that control the thickness of the material being spread. There are holes in the Skid that mark off the depth of the material being spread. The double marks show 0" thickness and each additional mark measures 1" increments. Crank each of the Lift Jacks until the edge of the Screed lines up with the desired thickness. In this case, a 3" finished thickness of asphalt will require a layer of fresh asphalt nearly 5" thick so that it will compress with a roller to the desired thickness. Tighten the bolts on the front and rear of the spreader to hold the spreader in position. Use the winch to lift the rear of the spreader using the rear lift ring, unchain the safety chains and lower the rear of the material spreader to the ground. Unhook the winch from the rear lift ring, hook the winch to the front lift ring, and lift the spreader so that the front safety chains

can be unhooked. Lower the front of the material spreader to the ground. The Material Spreader has now been properly adjusted and is ready to use.

7 OPERATORS POSITION –

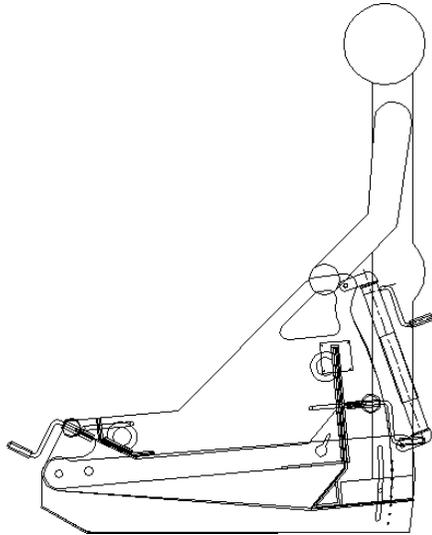


FIGURE 1
(SEE THROUGH)

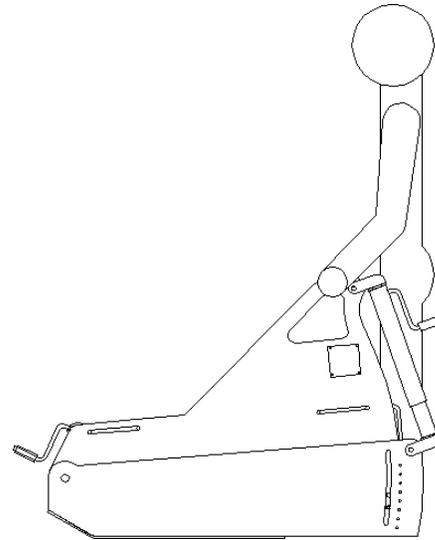


FIGURE 2

FIGURE 1 & 2 shows the usual position for the MATERIAL SPREADER operator. No more than two people should stand on the Screed while the MATERIAL SPREADER is in operation

- The proper hand and foot placement is shown. Keep a hand on the handle at all times while the MATERIAL SPREADER is moving.
- Always wear safety equipment. Asphalt is hot. Gravel contains rock dust. Dump trucks dump material that may land on people at the rear of the truck. Gloves, helmets, respirators, and other types of safety equipment specific to what is being spread should always be worn while operating the Material Spreader. SAFETY IS UP TO THE OPERATORS. SAFETY SHOULD BE THE MOST IMPORTANT JOB OF THE DAY.

8 OPERATION – There are a number of common sense rules:

- Complete a final safety check.
- Are all of the bolts tight? Have you adjusted the width and material thickness properly?
- Discuss the job at hand completely with all employees.
- A system of hand signals will be required for the employees to communicate. A signal for go, stop, slow down, speed up, raise bed, and lower bed will be the minimum required to control the driver.

- Pick a lead man to be in charge, but not the vehicle driver.
- You can not back up with the spreader attached and on the ground.
- Make sure you start at the beginning of the job and work toward the exit so you don't have to cross over your work to leave.
- Clean and lubricate the spreader. Solvent applied before you start work will help make clean up much easier at the end of the day.
- If you are using the material spreader for asphalt, remember that it can only be used HOT. Waste no time getting to the job, setting up the equipment, discussing the work, etc. Have everything discussed before you get the material and get to work. Every minute is important when you are working with hot material.
- Lift the truck bed with the tailgate shut to position material evenly across the back of the truck bed. You may have to do this more than once during a job.
- Lower the bed before making any adjustments to the tailgate.
- Adjust the chains that prevent the tailgate from opening so that the tailgate will only open 4" to 6" to restrict the flow of material.
- Raise the bed slowly. Fill the spreader with material nearly halfway, so that the peak of the material is even with the rear adjustable sides. Use rakes or shovels to distribute the material evenly in the spreader.
- If you are using the material spreader for asphalt, the truck driver needs to pull forward 12" and stop for 2 or 3 minutes. This will let the heat of the asphalt warm the screed. A warm screed makes a nicer surface finish and makes the asphalt flow more smoothly.
- The towing vehicle driver needs to pick a slow speed to tow the material spreader and be consistent.
- Try to spread in slow, long pulls without stopping.
- The MATERIAL SPREADER operators must always keep the spreader full of material, but not so full that it pours over the sides. They must keep the material evenly distributed across the inside of the spreader to prevent bare spots.
- The loopers, if available, are to fix bare spots, correct the edges, clean up spills, and in short fix errors.
- Use material wisely
- Leave the spreader full of the last material available when switching trucks on a large job so there is not a gap in the material on the ground.
- If the thickness of material being spread must be adjusted during a job, do the adjustment in small increments while the spreader is moving so you can not see ridges in the surface of the material.

- 9 CLEAN UP – Clean everything completely. Use scrapers to remove large deposits. Soak everything in environmentally safe solvent. Remove all material from truck beds, tools, the hitch, jacks, etc. Clean up everything as soon as the job is over, at the work site.
- 10 STORAGE – The Material Spreader is designed to be weather resistant, but proper storage in a clean and dry location will increase the Material Spreaders useful life. Keep all parts together. Remove everything from the towing vehicle that is not permanent. The winch and battery should be stored in a warm dry place, indoors if possible. Remember to charge the battery completely before the next job.
- 11 CONCLUSION AND SUMMARY – We have tried to make the Drag-A-Box brand Material Spreaders as useful and versatile as possible. If you have any suggestions to make our product better, please contact us, we are always looking to make a better product. If you have any special needs, require custom modifications, or just want an engineered solution with all parts custom fitted for your truck and ready to go, please ask for a quote. We will provide you with the highest quality service, by people with years of experience. We want your business and will do what it takes to make you happy.

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