Shuttlewagon Mobile Railcar Movers

Key Features

Remote Progressing Vehicle

Commander Series

Navigator Series

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| Easy engine compartment access  | Large easily removable hood sides on both sides of the vehicle provide all around engine compartment access.  
Engine and transmission fluids can be easily checked, replenished, or replaced without special facilities or equipment. While routine preventive maintenance can be conducted quickly and easily.  
The ease and simplicity of maintenance means more time pulling railcars and less time in the repair shop |
| Weatherproof controls           | Remote control electronics and pneumatic valves are housed in weatherproof enclosures.                                                                 |
| High-visibility hand rails and ladder | Hand rails and ladders are high visibility white powder coated.  
Hand rails can be removed for increased access to the engine compartment.  
Access ladders feature a free swinging lower step designed to accept impacts from low lying obstructions without damaging the ladder. Step surfaces are a perforated open grip pattern designed to shed water and debris and ensure footing stability. |
| CanBus electrical system        | The CanBus electrical system is essentially a digital network that integrates the vehicle’s electrical components with less wiring and greater capability.  
Wiring reduction improves reliability of the electrical system and permits options, such as remote control and hand held emergency stop switches for ground personnel to be easily added to new or existing vehicles having CANbus. Other features such as engine and transmission diagnostics can be displayed on a color monitor for reducing maintenance time and costs. |
| Full-width cab                  | The 72” high, full width cab offers a 360 degree field of view and is equipped with two fully adjustable air suspension operator seats on either side of the cab. A center mounted rotating console permits rail operations to be conducted from either operator’s seat. The seats are fully adjustable and can rotate 180 degrees to allow the operator to conduct rail operations from either side of the cab in forward or reverse.  
The control console features a multi-function color display that gives the operator a wider range of information than can typically be displayed on gauges alone.  
Tinted glass, access doors on each side of the cab, sliding windows, sound proofing insulation, ceiling mounted map lights, defroster fans, slip resistant diamond pattern cushioned rubber flooring are all standard features. |
### Rubber tire drive

The main advantage of the rubber tire drive system is that it does not require additional weight to be borrowed from the attached railcar in order to provide enough traction to move the railcar. Since the coefficient of friction of steel to steel is approximately .25 to .33 versus .70 to .80 for rubber to steel, a rubber tire drive produces two to two and a half times the tractive effort for equal vehicle weights. A low coefficient of friction and axle load restrictions limit the pulling capacity for these older type steel wheel drive Railcar Movers. Additionally, if not enough weight is available in the attached railcar to provide the weight necessary to increase traction not enough pulling force can be generated to move the load. This can be problematic in situations involving moving empty railcars.

The Shuttlewagon’s rubber tire drive system produces the same pulling power regardless of the attached weight. The other major advantage that rubber tire drive offers is the pneumatic support for the axles provided by the tires. With traditional steel wheel drives the steel drive wheels are bolted directly to the axle hubs with no suspension of any kind. Borrowing weight from the attached railcar simply increases dynamic loads on the axles and other drive train components, adversely impacting axle and drive train life. The cushioning effect of the rubber tires provided by a rubber tire drive system protects the axles and drive train from shock loads generated by pulling heavy loads along steel rails, while the inclusion of anti-slip traction control (standard equipment on all Shuttlewagon models) prevents accidental over rotation of the tires on start up when pulling heavy loads and greatly improves tire life, a significant benefit for users.

### AAR-type sliding coupler

The urethane impact cushioned AAR type sliding coupler offers advantages over previous pin type rotating coupler systems. The cushioning effect of the urethane pillow blocks is enhanced, reducing both coupling impact shock loads as well as rail movement vibration from being passed into the vehicle though the couplers. The coupler knuckle now slides from side to side along a lubricated plate. This increases lateral range of movement of the coupling mechanism permitting movement through tighter curves without risk of binding the couplers.

The coupler is air activated for coupler release, hydraulically positionable from side to side for coupling and auto locking to engage. Because the coupler is a direct connect type coupler similar to a locomotive’s which does not borrow weight from the attached railcar the coupler faces are free to move vertically against each other to accommodate for rail level inconsistencies, there are no additional hydraulic hoses or cylinders to crowd the coupling mechanism. This reduces potential pinch points and provides more room for connecting the train air brake system.

By not having to borrow weight from the attached railcar this coupler can couple to long faced railcar couplers now being introduced by the railroads on some types of railcars without any modifications.

### Remote control system

The powerful non-FCC license remote control puts all the functions at the operator’s fingertips. Both on-rail and off-rail movement is controlled via the remote control as well as engine start and stop, emergency stops, warning devices, throttle, and rail sanders.
| Single manifold hydraulics | New with the “Commander” is an entirely new type of hydraulic connector called the STC fitting. Unlike a traditional flared connector this new fitting utilizes an O-ring and snap connector. Gone is having to turn the flare nut onto the fitting which can result in cross threading, kinked hoses, or improperly torqued connections. These new fittings simply snap together for a leak free connection. A simple flat disconnecting wrench is all that is required to disconnect the hose from the fitting. This simple one handed operation is a real boon where space is limited and wielding a wrench in each hand difficult.

The hydraulic manifold is machined to accept the hose ends directly, eliminating the interconnecting fitting completely. This reduces the number of fitting connections which are potential leak points and increases room around the connections. |

| Rail wheel flange lubricator | Auto dispensing graphite stick lubricators lubricate the rail wheel flanges, reducing friction between the rail wheel flange and the rail. This permits the Shuttlewagon to negotiate tracks with high degrees of curvature.

Because the motive power of the Shuttlewagon is generated by the rubber tires against the rail lubricating the rail wheel flange is possible.

Obviously this unique solution to reduce shear forces and loss of pulling power generated by the rail wheels against the rail in track curvature cannot be employed by Railcar Movers that rely on their steel rail wheels for motive power. You cannot both lubricate against friction while trying to generate traction through the same rail wheel. |

| Unity remote control | Shuttlewagon’s powerful new FCC licensed Unity remote control system offers remote vehicle start up and shut down and a lighter easier to operate controller with back lit LED screen that displays critical vehicle information to the operator by way of it’s “talkback” function. This permits remote ground control of rail operations to be conducted similar to in cab operations with fewer involved personnel.

The real advantage this system offers is a greater range of performance compared to most non-FCC equipment, as well as the ability to start up or shut down the vehicle remotely. This can result in substantial fuel cost savings and lower maintenance costs.

The Commander can be ordered as “remote ready”. This option allows quick and easy field installation of the remote control at the customer’s convenience. |

| Dual Rail Guided Drive Units | Dual guide wheel trucks mounted on rotating bearings with guide wheels before and behind the drive tires move independently, allowing the drive wheels to follow the curve of the track with minimal side pressure on either the guide wheels or drive wheels.

Guide wheels are mounted on a pivot shaft that permits each guide wheel to react independently to inconsistencies in the rail such as frogs, switches, joints, and dips, keeping all four guide wheels in contact with the rail. |
| **Dual Air Suspension Operator Seat** | Shuttlewagon is the only Railcar Mover that offers dual air-suspension 4-way operator seats on all of its models. Both the main driver’s seat and passenger side seat are fully adjustable and can be rotated 180 degrees to accommodate rail operations in either direction. The center mounted rotating console can be rotated to permit rail operations from either side of the cab, and each seat can be adjusted to permit the operator to conduct operations in a manner that is safest and most comfortable for him or her. Its small details like this that set us apart from the rest, because when it comes to safety there are simply no short cuts. |
| **Multi-function color display** | With the introduction of the “Commander” series Shuttlewagon a completely new operating system was introduced. This new operating system centered around a CANbus electrical system that functions like a computer network, links the Shuttlewagon’s various components together in a way that can be displayed on its multi-function color screen. The amount of information available for display is considerably more than could be shown on conventional gauges, and reduces the amount of dedicated wiring. A system of menus displays information for operators based on order of importance, allowing the operator to quickly tell at a glance if the vehicle is operating correctly. If a fault or error occurs it often alerts the operator before any other outward signs of malfunction are detected. By following available sub menus the source of the problem can often be determined without time consuming troubleshooting and corrected before it contributes to a bigger problem. For maintenance personnel the multi-function color display performs diagnostic functions. This readily available information helps reduce maintenance down time. |
| **90-gallon fuel tank** | Our large capacity 90 gallon fuel tank permits longer operations to be conducted between refuelings, which can be advantageous if refueling facilities are distant from the area of operation. The high density crosslinked polyethylene material used for the tank is seamless, impervious to rust and therefore will not eventually leak at the seams like many steel fabricated tanks. It is far more puncture proof than fabricated steel and will not dent. It is more dimensionally stable under temperature extremes and less likely to condense interior moisture. The internal baffling of the tank permits the inclusion of a fuel tank heater option for cold weather operations. |
Dispensing sand or grit on the rails in railcar moving operations is simply a fact of life. Regardless of what type of vehicle is being used to move railcars, dispensing some sort of grit for additional traction on the rails is often a necessary part of being able to move the cars. Filling sander boxes on a Railcar Mover has always been a chore. The material to be dispensed is heavy, awkward to handle, and most often the fill ports located in difficult to reach places are clogged because the material tends to absorb moisture and clump together, and clean up after filling is necessary to prevent accidents.

By nature of their function sanders must be located near the drive wheels where space is usually limited. At Shuttlewagon, Inc. careful attention to this often overlooked detail was incorporated early in the design of the “Commander” series. The result is the Commander’s sanding system consists of four bi-directional dispensing boxes composed of high density crosslinked polyethylene, making the containers lighter, easier to handle, stronger than fabricated steel, and impervious to rust. The boxes are located beneath the deck outboard of the tires on sliding rails that allows them to be slid out for filling, maintenance, and access to the tires. Wide mouth hinged lids protect the material from the elements and permit easy filling from ground level. Spillage of material during filling is limited away from the vehicle’s deck and walkway, minimizing cleanup. Incorporating forward and reverse dispensing from a single container reduces by half the number of boxes that must be maintained, and is simply an easier way to do an old job.

The Switchman remote control is a small hand control that gives ground personnel the ability to halt rail operations. About the size of a common T.V. remote, the Switchman control is easily portable.

Depressing the E-stop button on the control activates the vehicle’s emergency stop system, applying the vehicle brakes and train air brake system simultaneously to halt rail movement.

Although the Switchman control and E-stop system are optional equipment, their use in the industry is so prevalent for safety concerns that we install it on more than 70% of all new vehicles built today.

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