

HY-RAIL® Guide Wheel Equipment



The **HR4500 Series A HY-RAIL®** guide wheel attachments enable railway vehicle fleet managers to provide well-equipped maintenance vehicle while obtaining maximum payload capability from today's versatile heavy-duty trucks.

HR4500 Series A guide wheel attachment adapts heavy-duty, chassis-cab trucks and similar vehicles, that meet Harsco Track's recommended vehicle specifications, for railway applications requiring travel on the highway and on the rail.

The front unit utilizes a "support carriage" design concept to handle heavy loads with a relatively light-weight guide wheel assembly. This unique design minimizes front unit overhang for easy handling in traffic or tight clearances and places the front guidewheels close to the vehicle axle—a welcome advantage when placing the vehicle of or off rail at a narrow road crossing.

The rear unit features a self-centering, true side-shift mechanism that enables the operator to place a vehicle "on-rail" even when the rear of the vehicle is up to 3-inches out of position. The rear unit is also equipped with the proven Harsco Track adjustable coil spring suspension for a smooth ride under various load conditions and the security of continuous guide wheel contact with the rail through road crossings, turnouts, and crossovers.

HR4500A guide wheel units attach to the vehicle by bolt-on mounting. Unit installations are fully adjustable for vehicle curb weight, rail clearance height, and tracking.

Mounting brackets are specifically designed for each approved vehicle model to make installation easier and assure mounting integrity. Lever-released, positive mechanical locks hold the guide wheels in the highway and rail positions. On-rail braking is enhanced by air-actuated tread-type brakes mounted on the front unit.

Manual raise/lower valves located at each unit allow the operator to verify proper alignment of guide wheel and rail and check safety lock security while operating the raise/lower cylinders and guide wheel lock from same location.

STANDARD EQUIPMENT: Derail skids - Lever-actuated mechanical locks secured by safety pins - Manually-actuated control valve on each unit - Regreaseable wheel bearings - Insulated rail wheels - Air-actuated, tread-type rail wheel brakes w/composition shoes on front unit - Adjustable coil spring suspension on rear unit - Side shiftable rear unit - Mounting holes for installation of standard vehicle bumper on front unit.

RECOMMENDED SAFETY OPTIONS: Air-actuated, tread-type rail wheel brakes w/composition shoes on rear unit - Rail sweeps on front unit - Wheel load jack assembly - Roof-mount visibility beacon.

OPTIONAL EQUIPMENT: Hydraulic power pack - 5gpm hydraulic tool circuit connection - Rail sweeps for rear unit.

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Features and Benefits

- "Support carriage" concept provides excellent ride and control, minimizes front unit overhang and "on-rail" wheelbase, and provides high load capacity from a light-weight guide wheel unit.
- The "support carriage" enables the vehicle's front axle and spring suspension to support a portion of the front end load and provide "on-rail" springing with no permanent connection to the front axle or springs.
- Self-centering, true side-shift mechanism on rear unit enables operator to place vehicle "on-rail" even when rear of vehicle is up to 3-inches out of position.
- Rear unit's adjustable coil spring suspension provides smooth ride, enhances traction of vehicle drive wheels, and maintains guide wheel/rail contact in road crossings and turnouts.
- Harsco Track guide wheel units are attached to the vehicle by bolt-on mounting brackets, enabling field adjustment for vehicle load, clearances, and tracking.
- Air-actuated, tread-type brakes equipped with a single Cobra composition brake shoe are standard on each front unit rail wheel. Similar rear unit brakes are available.
- Lever-released, positive mechanical locks holds the guide wheels in the highway and rail positions. Lock levers are secured by safety pins.

HR4500 Series A Specifications

COMPATIBLE VEHICLES

Type	Medium-duty chassis-cab trucks with single or tandem rear axles
Weight Class:	
GVWR	Up to 74,000-lb. (33,566-kg) max.**
GAWR - Front	Up to 24,000-lb. (10,866-kg) max.**
GAWR - Rear	Up to 50,000-lb. (22,680-kg) max.**

GUIDE WHEEL UNITS

Construction	Fabricated steel unit - welded construction
Attachment to Vehicle	Universal front unit bolts to vehicle's front end with custom mounting brackets specific to each vehicle model - universal rear unit bolts to vehicle chassis rails - multiple, standard spaced mounting holes enable adjustment of unit mounting for frame height and vehicle load
Suspension	
Front Unit	Utilizes vehicle's front axle suspension system
Rear Unit	Enclosed coil springs with adjustable pre-load
Rail Wheels	Austempered ductile iron - precision machined
Tread Diameter	16.00-in. (406.4-mm)
Flange Diameter	18.09-in. (495.5-mm)
Wheel Bearings	Heavy-duty, tapered roller - relubrication by hand pack method
Brakes	Air-actuated, tread-type, w/single Cobra composition brake shoe on each front unit rail wheel as standard - rear unit brakes available (recommended safety option)
Safety Locks	Positive mechanical lock of each unit - locked in highway and rail positions - lock release lever secured by a safety pin
Derail Skids	Bolt-on, on front unit - built-in, on rear unit
Rail Sweeps	Available - Bolt-on - manually actuated
Raise/Lower Actuation	Hydraulic - double-acting cylinders - manual control valve located on each unit
Bumpers	Mounting holes provided in front unit for applicator installation of vehicle's standard front bumper

WEIGHTS & DIMENSIONS

Front Unit	1,360-lbs. (617-kg) with standard equipment (Est)
Rear Unit	1,360-lbs. (617-kg) with standard equipment (Est)
Track Gauge	56.5-in. (1,435-mm) - Standard

LOAD CAPACITY

Front Unit	25,000-lb (11,340-kg) / 12,500-lb (5,670-kg) maximum load per guide wheel
Rear Unit	25,000-lb (11,340-kg) / 12,500-lb (5,670-kg) maximum load per guide wheel

REQUIRED AUXILIARY EQUIPMENT

Steering Lock	Steering column mounted - manual actuation on steering wheel
Mounting Brackets and Spacers	Specific design for each approved vehicle model

HYDRAULIC SYSTEM REQUIREMENTS

Flow Range	.5 - 8 gpm (18.9 - 30.2-lpm)
Operating Pressure	
Front Unit	2,200-psi (151.6-bar) max.
Rear Unit	2,000-psi (137.9-bar) max.

FACILITY LOCATIONS:

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