



STARR[®] System

Semi-Trailer Automated Rapid Rail Side Loader



STARR® System

An automated side loader like no other!

Heil's **STARR® System** is patented as the industry's only semi-trailer refuse and recycling collection system, and the most maneuverable full-size collection vehicle in the world. The **STARR** consists of an automated arm mounted on a truck tractor, and a detachable semi-trailer packer body. This design means the STARR can literally run circles around other "straight frame" trucks, going around cul-de-sacs with ease and in and out of tight spots with less potentially dangerous backups.

But safety and maneuverability are only part of the story. The **STARR System** is revolutionizing the way refuse is collected in neighborhoods around the world, by addressing the problem of ever increasing distances to recycling facilities and landfills. Because of its tractor and trailer configuration, you can simply disconnect the **STARR** trailer when full, and then hook the tractor to an empty trailer so the operator can continue on the route. The full trailer can then be set aside, staying parked until it is convenient to take it to the yard, enabling you to schedule landfill hauls when traffic volumes on the road and at the disposal site are lower. Plus, full trailers can be pulled as tandems to the landfill when the route is done, or using non-route trucks, cutting your long trips to the landfill in half — driving down your fuel and tire costs.

The **STARR System** uses Heil's proven Rapid Rail® body design with continuous packing, solid structural foundation, and dependable operation. The automated arm has an 8-foot reach, 1,600 lb. lift capacity, and 8-second cycle time. It's unique lift geometry provides a direct line to the hopper, without the kick-out of some other systems, so the **STARR** can pick up where the other vehicles can't.

To learn more about adding the **STARR System** to your fleet, contact your authorized Heil Dealer. To find the Dealer nearest you, visit www.heil.com.

*"With Heil's **STARR System**, we're accomplishing our objectives. We've dramatically increased productivity while saving our citizens money. There's no more talk about needing a transfer station — and we're saving fuel, plus extending the life expectancy of our route trucks."*

*Michael Woodruff
City of Longmont, CO*





Rapid Rail® Automated Lift

The Rapid Rail arm features superior hardened grabber gears made from specially formulated high-strength, alloy steel, which virtually eliminate gear wear. The gears are splined to the grabber shafts and can be cycled up to 1,000,000 times with no evidence of wear.



Service Smart™ Design

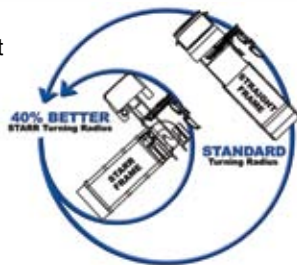
*The **STARR System** features our Service Smart™ design, which simplifies routine maintenance and keeps you away from the shop and out servicing your customers – and making money. Features include a new soft-shift valve, proximity switches, and a cable carrier that neatly and securely houses all of the arm's hydraulic hoses.*



Unique Features

The **STARR® System** was specifically engineered with unique features to easily handle the most challenging routes.

- **Exceptional Reach and Lift** — The Rapid Rail® lift geometry provides a direct line to the hopper. There is no “kick-out” as seen with other systems, enabling the **STARR** to get in and out of tight spaces easily. The Rapid Rail lift is a proven, efficient, and reliable automated lift which dumps using a straight up, vertical motion. The lift can efficiently handle containers from 30 gallons up to 300 gallons, making it an ideal solution for mixed commercial and residential applications.
- **Enhanced Visibility** — The **STARR** offers outstanding visibility for operators, enabling them to drive from the preferred left-hand side of the truck.
- **Quiet, Fuel-Efficient Operation** — Heil's Operate-in-Gear-at-Idle System comes standard on the **STARR**. It is designed to help you finish routes up to 20-percent faster, saving up to one gallon of fuel per hour while reducing wear on the lift assembly, chassis, engine, and transmission. Plus, it greatly reduces noise — a benefit to operators and customers alike.
- **No Packer Panel** — Because there is no packer panel to slide into the body, there are also no shoes, guide tracks, or guide rails to wear out – and you never have to clean out behind the packer.
- **Turning Radius** — The **STARR** boasts an enviable 42-foot curb-to-curb turning radius — 40% better than a straight frame vehicle — navigating with ease around cul-de-sacs, alleys, dead-end streets, and cars parked at the curb. More importantly, this greatly reduces the need for potentially dangerous backups.



Trailerized Transfer

*Haul up to 18 tons legally and cut trips to the disposal site in half by pulling full **STARR System** trailers to the landfill as tandems, using a standard tractor. You'll save time and fuel, as well as tire and maintenance costs.*



Patented Paddle Packer

*The **STARR's** patented paddle packer continuously sweeps the hopper, eliminating the need to stop and pack the load as well as the need to clean out debris from behind the packer.*





STARR® System

Semi-Trailer Automated Rapid Rail Side Loader Product Specifications

| Performance Specifications | |
|---------------------------------------|------------------------------------|
| Lift Capacity | up to 1,600 lbs. |
| Lift Cycle Time (complete*) | 8 seconds |
| Lift Reach | 8 ft. |
| Compaction | up to 700 lbs. per yd ³ |
| Working RPM (operate-in-gear-at-idle) | 750 (arm) & 1,500 (packer) |
| Turning Radius (curb-to-curb) | 42 ft. (tractor dependent) |

* Complete cycle time defined as grip, dump, return and release

| Automated Lift Specifications | |
|-------------------------------|--|
| Lift load capacity | up to 1,600 lbs. |
| Cycle time | 8 seconds |
| Reach | 8 ft. |
| Ground clearance | 20 in. from ground to bottom of grabber arms (based on a 42 in. chassis rail height) |
| Weight* | 1,950 lbs. approximate |
| Controls | Electric over hydraulic |

* Weight includes standard 60/90 gallon grabbers

| Cylinder Specifications | | | |
|-------------------------|-------------------|---------------|--------------|
| BODY CYLINDERS | Type | Bore x Stroke | |
| Tailgate Raise | (2) Double acting | in. | 3.0 x 18.5 |
| | | mm | 76 x 470 |
| Packing Blade | (2) Double acting | in. | 5.0 x 42.0 |
| | | mm | 127 x 1066 |
| Body Hoist | (2) Double acting | in. | 4.0 x 55.5 |
| | | mm | 102 x 1407 |
| LIFT CYLINDERS | | | |
| Grip | (1) Double acting | in. | 3.0 x 8.0 |
| | | mm | 76 x 203 |
| Raise | (1) Double acting | in. | 3.0 x 8.0 |
| | | mm | 76 x 203 |
| Dump | (1) Double acting | in. | 3.0 x 16.0 |
| | | mm | 76 x 406 |
| Reach | (1) Double acting | in. | 1.75 x 71.25 |
| | | mm | 44 x 1810 |

| Body Specifications | | 33 yd ³ | 37 yd ³ | 33 yd ³ - D | 37 yd ³ - D |
|------------------------------------|-----------------|--------------------|--------------------|------------------------|------------------------|
| Trailer Capacity | yd ³ | 33 | 37 | 66 | 74 |
| | m ³ | 25.3 | 28.3 | 50.6 | 56.6 |
| Hopper Capacity | yd ³ | 3 | 3 | 3 | 3 |
| | m ³ | 2.3 | 2.3 | 2.3 | 2.3 |
| Overall Length | in. | 276 | 276 | 648 | 648 |
| | mm | 7010 | 7010 | 16,460 | 16,460 |
| Overall Width | in. | 96 | 96 | 96 | 96 |
| | mm | 2438 | 2438 | 2438 | 2438 |
| Overall Height Above Frame | in. | 97 | 109 | 97 | 109 |
| | mm | 2464 | 2769 | 2464 | 2769 |
| Approximate Weight (includes lift) | lbs. | 17,750 | 17,950 | 35,500 | 35,900 |
| | kg. | 8,051 | 8,142 | 16,103 | 16,284 |

* Overall length is for trailer only (single system) or, (double system) measured from front of first hopper to end of last tailgate.
 * Weight includes trailer(s), lift, wheels and tires, and dolly (doubles only).

| Hydraulic Specifications | |
|----------------------------|---|
| PUMP | Operate-In-Gear-At-Idle (standard) |
| Type | Front mount Tandem vane |
| Maximum Operating Pressure | 2,500 psi (17,238 kPa) |
| Working RPM | 1,500 RPM (packer) 750 RPM (arm) |
| Flow @ Working RPM | 33/17 GPM (packer/arm) |
| OIL RESERVOIR | Chassis frame mounted |
| Gross Capacity | 50 gallons (246 liters) |
| Filters | 3 micron return line with magnet, 140 micron mesh suction strainer |
| VALVES | |
| Shutoff | Suction line |
| Lift and Packing Control | Soft-shift electric over hydraulic |
| Hoist and Tailgate Control | Electric over hydraulic |

| Tractor Requirements * | | |
|-----------------------------------|------------------------|------------------------|
| Axle | Single | Double |
| Min. GVWR | 37,000 | 37,000 |
| Min. GAWR | front | 14,000 |
| | rear | 23,000 |
| Usable Minimum CA | 112-116 | 112-116 |
| Minimum Wheelbase ⁽¹⁾ | 136-140 | 136-140 |
| Max Landing Gear Wheel Clearance | 67 in. | 67 in. |
| Fifth Wheel Height | 44-47 in. | 44-47 in. |
| King Pin Position ⁽²⁾ | 24 in. | 24 in. |
| Minimum Recommended Engine Torque | 325 ft. lbs. @ 700 rpm | 325 ft. lbs. @ 700 rpm |

*Additional requirements:
 • Neutral signal, brake signal and R-stator signal dedicated for body builder use in cab.
 • 160 amp alternator - minimum

(1) Wheelbase minimum based on Cab-Over-Engine chassis styles.
 (2) King Pin position measured from forward of centerline to rear drive axle.

All designs, specifications, and components are subject to change at the manufacturer's sole discretion at any time without notice. Data published herein is for information purposes only and shall not be construed to warrant suitability of the unit for any particular purpose, as performance may vary with the conditions encountered. The only warranty is our standard written Warranty Statement for this product at the time of shipment.



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