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Harsco Track Technologies

Harsco

TKO[®] Tie Remover/Inserter Model RMC305 Series B

Precise control of a machine's rail lift system is the key to fast, efficient old tie removal and proper insertion of new ties with minimum disturbance of the track structure.

Harsco Track Technologies' TKO[®] Tie Remover/Inserter can provide you with this precise control. It removes or inserts ties in one piece with minimum disturbance to the track structure by precisely controlling rail-to-tie clearance with its distinctive rail lift system.

The rails over the tie to be removed are raised by two clamp/lift units which are located on 4-ft. centers and symmetrically positioned one in front and one behind the work head for maximum effectiveness. Four jack cylinders, controlled by an automated system, precisely lift both rails the same amount for each tie. The "lift distance" is easily set by the operator for tie and track conditions and can be set to different dimensions for the leading and trailing rails.

If additional rail clearance is needed to remove a specific tie, the operator can override the preset lift of any one of the four lift cylinders with individual lift control buttons.

The massive frame of the TKO transfers the load of the lifted rail to the machine's wheels which distribute the load into the track structure over the 18-ft. wheelbase length, effectively stabilizing the track during the process of removing or inserting a specific tie.

The Harsco Track Technologies TKO[®] Tie Remover/Inserter: the fast efficient way to remove or insert ties with minimum disturbance of the track structure.

Major Features:

- Precise control of rail lift enables the TKO to remove and/or insert ties with minimum disturbance to the track structure.
- Heavy-duty construction throughout meets the demands of high production tie removal and replacement.
- Articulated gripper head pivots up to 40° to assist in picking up ties from the shoulder and guiding them into position under the rails.
- Optional tie kicker applies 10,000-lbs. of horizontal force for starting difficult ties.
- Ergonomically designed operator station provides excellent visibility of the track and work area and enhances operator comfort and ease of operation.



TKO® Tie Remover/Inserter Model RMC305 Series B Specifications

GENERAL

- ...Frame — Welded structural steel I-beam construction with reinforced center section and integral crossmembers; equipped with built-in derail skids, key-hole tie-down slots, tow hitches front and rear, and four frame-mounted lifting eyes
- ...Wheels — 24-in. (610-mm) tread dia. cast steel, demountable; AAR Profile, insulated available
- ...Axles — Heavy-duty bolted carrier, enclosed no-slip differential, semi-floating axle shafts with integral wheel mounting flanges; 50,000-lb. (22,680-kg) GAWR
- ...Suspension — Laminated rubber Vee-spring at each wheel
- ...Brakes — Clasp-configuration, tread-type adjustable shoe brakes with actuator and two composition shoes at each wheel; service brakes air-applied; parking brakes spring-applied, air-released, with automatic brake actuation in case of air pressure loss

PROPULSION SYSTEM

- ...Type — Hydraulically-driven; operator selectable four-wheel drive for work and slow speed travel, two-wheel drive high speed travel
- Traction Motors — Hydraulic motor direct-coupled to each axle

POWER UNIT

Engine — Cummins 6 BTA5.9-P; liquid-cooled, turbocharged and aftercooled diesel
Displacement — 359-cu in (5.99-l)
Rated net hp — 174-bhp (129-kw) @ 2,500-rpm
Pump Drive — Single pump drive
Air Cleaner — Donaldson - multi-element
Starter — 12-VDC electric

HYDRAULIC SYSTEM

Type — Main Circuit - closed-center system; Auxiliary Circuit - open-center system
Operating Pressure — 2,500-psi (172-bar)
Pump - Main Circuit — Variable displacement piston pump; powers all machine circuits
Pump - Auxiliary Circuit — Fixed displacement vane pump; supplies hydraulic cooling system
Reservoir — Closed system ; hand-operated fill pump w/filter; temperature and fluid level gauges
Oil Cooler — Air to oil; airflow from engine cooling fan
Filtration — Suction strainers - return line filter; ISO 14/11 filtration available
Control Valves — Manifold-mounted, 12-VDC solenoid operated, four-way directional valves
Other — 12-VDC electric auxiliary pump

AIR SYSTEM

Compressor — 13.2-cfm (6.2-lps), single stage, reciprocating piston, engine gear driven; lubricated and cooled by engine systems
Operating Pressure — 100 to 125-psi (6.9 8.6-bar)
Other — Air dryer, moisture ejection valve, reservoir

ELECTRICAL SYSTEM

System Voltage — 12-VDC - negative ground
Battery — 12-VDC
Alternator — 12-VDC, 130-A

Other — Lockable master disconnect switch

CAB

Fully-enclosed, noise-isolated cab has sliding entry doors on each side, large front windshield, sliding rear window, and multiple side windows for excellent work and travel visibility; adjustable operator seat is equipped with integral control consoles and folding armrests; a separate console to the left of the operator's seat houses instruments and controls for the engine, lights, horn, etc.; foot pedals control travel and braking
Other — equipped with circulation fan, interior lighting, and windshield wiper w/washer; various mirrors and lighting groups are available

CONTROLS

Remover/insertor boom functions are directly controlled from operator-actuated joystick control
Rail clamp, lift, and release functions and the optional tie kicker are controlled by timing relays, pressure switches, and limit switches; cycles are initiated and terminated by operator-actuated push button controls; manual override switches allow operator to override preset lift heights for individual rail lift cylinders when conditions warrant

WORK HEADS

Telescoping tie remover/insertor boom is equipped with a pivoting gripper head to remove or insert ties; boom extends up to 66-in. (1,676-mm) on the right side of the machine; a removal force of up to 20,700-lbs. (4,536-kg) is generated for removing hard to pull ties; boom end raises up to 18 above and lowers to 5 below horizontal to facilitate tie removal and insertion
Gripper head jaws pivot up to 10 away from the machine and up to 32 toward machine to aid in picking up and positioning ties for insertion
Two rail clamp and lift units are positioned one in front and one behind the boom to precisely control lifting of the rail; rail lift capacity is 25,400-lbs (11,521-kg) per lift cylinder
Optional Tie kicker provides up to 10,000-lb (4,536-kg) break-away push to the end of the tie being removed; provides 26-in (660-mm) movement to facilitate removal of difficult ties

FLUID CAPACITIES

Hydraulic reservoir 90-gal. (US) (341-L)
Fuel (two tanks) 80-gal. (US) (303-L)

DIMENSIONS

Length 25-ft. (7.62-m)
Width 9.5-ft. (2,896-mm)
Height (over exhaust) 10.5-ft. (3,201-mm)
Wheelbase 18-ft. (5.48-m)
Track Gage 56.5-in. (1,435-mm) standard

WEIGHT

Standard Operating Weight Approximately 27,250-lb. (12,360-kg). Actual weight of a specific machine may vary according to sales groups applied.

PERFORMANCE

Travel Speed 0 27-mph (0 43-km/h)
Working Speed 0 13-mph (0 21-km/h)
Gradeability 8.5%

The Harsco Track Technologies equipment pictured in this brochure is intended to illustrate general appearance and features of this product. It is equipped as specified by a particular customer and may or may not show items that are optional or recommended by Harsco Track Technologies, Harsco Corporation. Specifications, illustrations, and descriptive materials herein were accurate as known at the time this publication was approved for printing. Harsco Track Technologies, Harsco Corporation reserves the right to discontinue models or options at any time or change specifications and materials, equipment and design without notice and without incurring obligation. Federal, State or Provincial, and/or local laws and regulations may require additional equipment for the particular use intended for this product. It is the buyer's responsibility to determine the applicability of such laws and regulations to the buyer's intended use for the product, and to arrange for the installation of the required equipment.



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