FMC

Main Deck Container/Pallet Loader

Model MDL-40

FMC

Model MDL-40 Specifications

Gross vehicle weight	65,740 lb (29,819 kg)
Dimensions	
Overall	
Length	39 ft 5 in. (12,014 mm)
Width	14 ft 8 in. (4,470 mm)
Forward platform	
Length	170 in. (4,320 mm)
Width between guides	128 in. (3,250 mm)
Rear platform	
Length	279 in. (7,086 mm)
Width between guides	128 in. (3,250 mm)
Height, minimum (including main lift cylinder)	12 ft 6.5 in. (3,823 mm)
Wheelbase	25 ft 5 in. (7,747 mm)
Shipping	
Length	39 ft 5 in. (12,014 mm)
Width	12 ft 0 in. (3,658 mm)
Height	8 ft 5 in. (2,641 mm)
Volume (cube)	3942 ft³ (111.6 m³)

Elevation range	
Forward Platform	8 ft 4 in. to 18 ft 4 in. (2,540 to 5,588 mm)
Rear platform	1 ft 7 in. to 18 ft 4 in. (483 to 5,588 mm)
Speeds	
Maximum lift	
Loads to 30,000 lb	45 ft/min (22.9 cm/s)
Loads 30,000 to 40,000 lb	15 ft/min (7.6 cm/s)
Conveying	60 ft/min (30.5 cm/s)
Driving	0-8 mph (15 km/hr)
Power systems	
Prime mover	391-CID V8 industrial engine (diesel optional)
Hydraulic system (max.)	92 gpm at 2000 psi (5.8 l/s at 140 kg/cm²)
Electrical system	12 Vdc

Other FMC Airline Equipment

Main Deck Loaders
Container/Pallet Loaders
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Conveyorized Semitrailers
Deicer/Washers
Container Trailers
Pallet Trailers
Baggage Trailers
Cargo Trailers

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FMC Model MDL-40. Efficient container and pallet loading to 40,000 pounds.

The Model MDL-40 provides efficiency and flexibility to the air-freight industry by providing the capability for loading and unloading containers and pallets between freighter aircraft and ground-support vehicles. The Model MDL-40 was developed to service the nose and side doors of the B-747F main deck and the main-deck side doors of DC-10C, DC-8F, B-707F, and B-727F aircraft. The MDL-40 can also be used to service the lower-lobe cargo doors of the B-747 and the front cargo door of the DC-10 and L-1011 aircraft.

Various equipment options are available on the MDL-40 to provide maximum compatibility with operational and environmental requirements that exist at airport locations worldwide. The advantages inherent within the MDL-40 are the following:

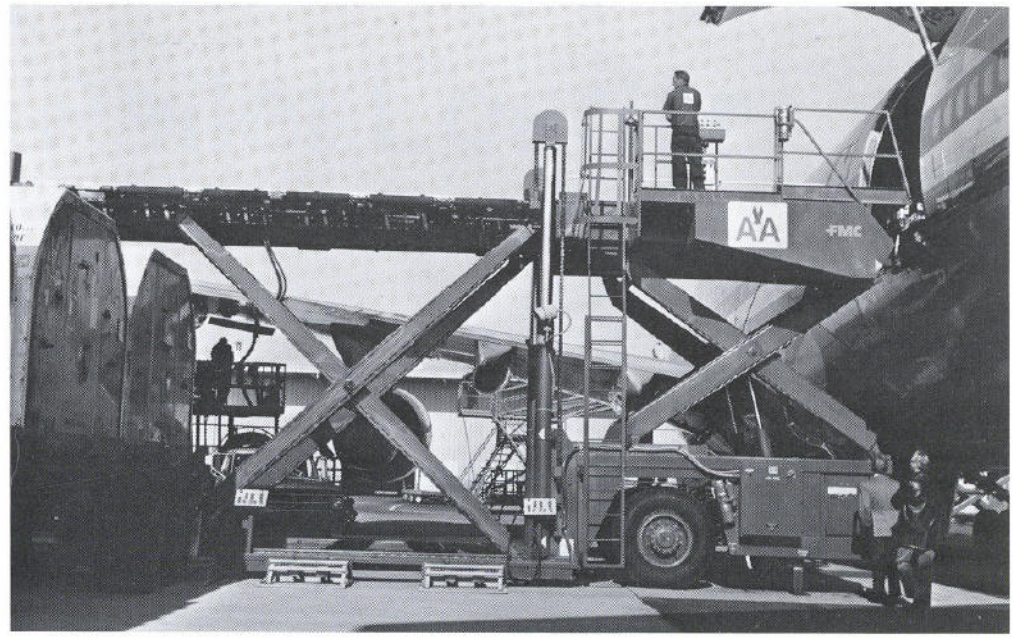
- Highly reliable performance
- Easy driving and positioning
- Power transfer from left side, right side, and rear
- Reduced load-cycling time
- Reduced cargo and equipment damage
- Safety-engineered
- Easy accessibility for maintenance
- Demand throttle to extend engine life and reduce noise
- Total parts and service support
- Comprehensive instruction manuals
- Operation and maintenance training

General configuration

The MDL-40 is a dual-platform self-propelled loader with two front drive wheels and two pair of tandem rear wheels. The two platforms of the loader each include an inverted-caster deck lifted hydraulically by a scissors assembly. Both platforms are controlled electrohydraulically from the operator's station located at the right side of the forward platform, directly behind the driver's cab. The driver's cab and operator's station elevate with the forward platform. All loader driving and loading functions can be performed by a single operator.

The rear platform is raised

and lowered by two hydraulic cylinders that control lift chains located at each front corner of the platform. The platform is supported and maintained in a level position by the rear scissors assembly. Powered edge rollers on the rear platform provide for load transfer at either side or at the rear. Two rows of belt modules convey loads longitudinally, and three sets of rollers convey loads transversely, at a rate of 60 ft/min (30.5 cm/s). The vehicle is powered by an 8-cylinder gasoline or an optional diesel engine. A demand throttle mechanism is incorporated for fuel economy.



Driving and positioning

Driving the loader, approaching the aircraft, and aligning the loader with the aircraft are performed at the driver's station. Vehicle steering is accomplished using a hydraulic Orbitrol-type system, and throttling is controlled by a hand lever. Forward or reverse direction is controlled by a toggle switch and vehicle speed by a foot pedal. Driving speeds are variable from 0 to 8 mph, with excellent inching control for final positioning next to the aircraft.

Attachment fittings are positioned on the loader and, after proper aircraft alignment, are manually engaged on aircraft door hooks or spools. A servomechanism maintains the forward platform at proper interface height with the aircraft.

Loading and unloading

The loading control panel is located at the operator's station. Movement of pallets and containers into and out of the aircraft is controlled from this position.

Height range of the rear loading platform is 20 to 220 inches (508 to 5580 mm); lifting capacity is 40,000 pounds (18,140 kg). The platform conveyor deck accommodates one container measuring 8 × 8 × 20 feet or two containers or pallets measuring 8 × 8 feet by 125 inches.

Load-conveying rollers and belts are raised automatically when the operator selects load-movement direction. Power-retracted guides, along each side and across the rear of the platform, are also controlled by the operator.

Safety features

The MDL-40 has been designed to provide maximum safety for operating personnel. The following safety features have been included in the design:

- Limit switch circuitry prevents lowering of the stabilizers and occurrence of any other operational function until the "Operate" mode is selected.
- Suitable guards prevent accidental contact with all potentially hazardous areas, including moving machinery and exposed portions of the electrical system.
- Relief valves prevent pressure surges in the hydraulic system.
- Circuit breakers prevent electrical overload in automotive, light, and control circuits.
- Safety stands support forward and rear platforms at a convenient height for maintenance.
- Pilot check valves for the platform lift cylinders maintain platform elevation in the event of hydraulic, electrical, or prime power failure.
- Emergency stop buttons, located on the operator's panel, driver's dash, and main control panel, shut down the prime power in the event of an emergency.