



# LAM 3500 DP/8



## CONTAINER/PALLET TRANSPORTER LOADER 7 800 Lbs capacity (3 500 kg)

Congestion on airports and limited space on ramp as well as the need to reduce operation costs at a minimum called for the USE OF A NARROW LOADER WHENEVER POSSIBLE.

**The new generation of loaders, chainless for easier maintenance and faster operation.**

The arrival on airports of the A320 and new A319 called for the design and creation of a new loader/Transporter: The AIR MARREL LAM 3500. In its research for trouble free maintenance and comfort for the operator AIR MARREL has developed

A special version of the LAM 3500 Model called LAM 3500 DP/M8. In addition to all features of the standard model DP/M7, the new version DP/8 offers powered side loading and container rotation in option or rotation only.

Other innovative design to be found on the AIR MARREL LAM 3500 DP/8 is the **chain-less load transfer system** (all powered rollers are directly driven by individual hydraulic motors)

The LAM 3500 DP/8 can :

- transfer baggage and cargo containers or pallets (max.60.4" wide) to the **front and rear lower deck compartments** of Boeing B767 and Airbus A319, A320, A321 aircraft.
- transfer baggage and cargo containers/pallets to the rear lower deck compartments of DC10, MD11, L1011, A300, A310, A330 and A340 aircraft.
- receive independantly on the front platform **one AKH container** or LD1, LD2, LD3.
- receive on the rear platform **2 special AKH containers** or 2 standard containers LD1, LD2, LD3 or 1 container LD4, LD6, LD8, LD11 or **standard aircraft pallet up to 1540mmx 3175mm (60.4" x 125")**.
- transfer containers or pallets to the aircraft at **transfer heights** from approx. 1.895 m to **3.490 m (74.6" to 137.4")**.
- receive and discharge loads **from ground vehicles** at a height of 508mm (20 in.), with a minimum height of 480 mm (19 in.) and a maximum possible height (on the rear) of 1600mm (63 in.).

**One man operation.** Direct access to both the driving and operation controls



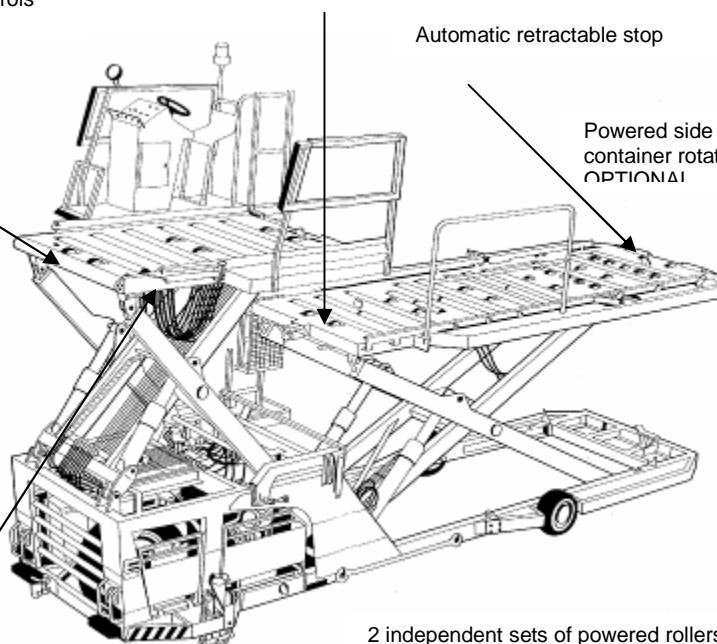
Perfect interface of the bridge and main platform by any electrical system slowing the platform when it comes to the bridge level and setting it at the same level

**Capability of operating without attachment to the aircraft with manual adjustment to aircraft height and pitch changes tilting** (by hydraulic operation).

Servo mechanism for **automatic adjustment of bridge to aircraft interface** with automatic accomodation of aircraft height and pitch changes by electrical sensors. (OPTIONAL)

Expansion arms supporting the attachment bar and enabling to stop at a distance of 20 cm from the aircraft

Hydraulic adjustable side guides on the bridge for **perfect guiding of containers into the cargo hold**



Automatic retractable stop

Powered side loading and container rotation  
OPTIONAL

2 independent sets of powered rollers  
Pull out cradle for easy access

Fully controllable slow approach to the aircraft facilitate proper alignment by **hydrostatic slow down** (hydraulic reducer motor) and a **turning angle of +/- 45° of the front wheel**





### EASY POSITIONING AND AUTOMATIC ADJUSTMENT

Bridge **Tilting capability** to adjust the lateral slope (changes in aircraft pitch). **Hydraulic adjustment** of right and left bridge guides for perfect transfer of containers.

As an option, our new aircraft door-sill levelling system allows **instant automatic height compensation** whilst maintaining the TIP DOWN/HILL UP ADJUSTMENT to aircraft roll FOR A320 OPERATIONS (tilting capability)

### TROUBLE FREE LOADING/UNLOADING OPERATIONS

The **auto levelling** between bridge and platform offers a perfectly mated transfer surface, **at any time**.

### MANOEUVRABILITY

The LAM 3500 DP/8 is fast, flexible and smooth in its movements. The hydraulic steering system ensures the loader a very short **turning radius**.

### HIGHER SAFETY AND LOWER MAINTENANCE

The LAM 3500 DP/8 complies with International Safety regulations. Electrical components are selected and tested for **extreme weather conditions** and maximum humidity.

A chainless direct drive load transfer system ensures accurate control and **reduced maintenance costs**.

**3 configurations in one.** Because of its modular design LAM 3500 DP/8 can be offered in 3 versions DP/M8 for rear loading only, DP/RF8 for rear loading and container rotation capability, DP/R8 for rear and side loading and container rotation capability.

### BASIC DATA AND DIMENSIONS:

#### Transfer and Lifting capacity :

- bridge and Platform : 3500 kg (7800 lbs) each = total 7000kg

#### Elevation range :

- bridge 1895 mm to 3400 mm (74.6" to 133.8")  
- platform 480 mm to 3400 mm (19" to 133.8")

#### Vertical speeds (platform) with a 3.5 ton load :

- raising 18 sec  
- lowering 16 sec

#### Horizontal load transfer:

- conveying 30 cm/sec (60 ft/mn)  
- Driving speed : 10 km/h (6.2 mph)

**Maximum admissible slope :** 7.5% when driving

**Turning radius overall :** 7.8 m (307")

**Steering angle (mono front wheel) : +/- 45°** (hydrostatic orbitrol system)

**Stopping distance at full speed :** less than 5 m (197")

**Vehicle weight :** 7.4 tons (16300 lbs)

**Ground clearance :** minimum : 130 mm (5.1 in)  
140 mm at the rear (5.5 in)

**Fuel tank capacity :** 90 litres (24 US gal.) minimum 8 hrs autonomy

#### Emergency procedure

- To raise the stabilizers
- To lower the platform

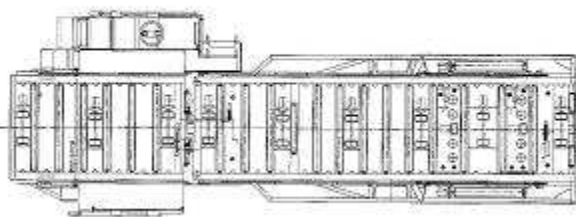
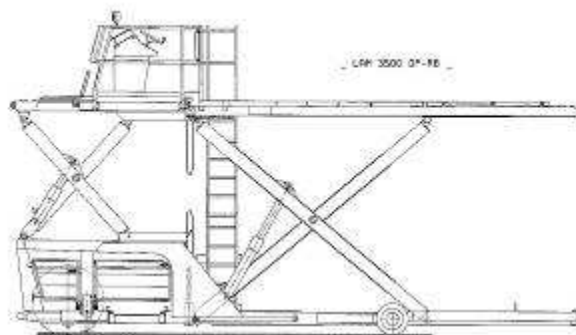
**Safety brake:** emergency disk brake by pressure drop

#### Overall dimensions

- length : 8130 mm (320") attachment bar in position
- width : 2950 mm (116")
- height : 2965 mm (116.7") including handrails
- wheelbase : 4650 mm (183")

#### Shipping dimensions

- length : 8100 mm (319")
- width : 2100 mm (82.7") Left handrails & control station removed
- height : 1900 mm (74.8")
- Volume : 34.4 m<sup>3</sup> (1445 ft<sup>3</sup>)
- Containerized on 40' container possible



#### Prime mover

Mounted on a pull-out cradle

**DEUTZ F4L 2011** or

Water cooled – 4 cylinders

Continuous rating

60HP AT 2500 rpm

**PERKINS 404C22T** water cooled,

**HATZ 4L41 C**

Air cooled – 4 cylinders

Continuous rating

60HP AT 2500 rpm

**Engine safety monitoring system** (automatic shut down if low oil pressure or engine overheat) cold start facility, **demand throttle system**

#### Hydraulic system

1) Main hydraulic pump : gear pump type with two stages 25 and 8 cm<sup>3</sup>/rv, 200 and 150 bar, directly driven by the Diesel engine through flexible coupling.

2) The 8 cm<sup>3</sup>/rv stage is used for hydrostatic steering

#### Electrical system

24 V.D.C. modular P.C.B. systems with plug-in relays.

Radio screened alternator. Two batteries 12 V (lead acid type) in series 115 Ah.

The LAM3500 is equipped with all necessary lights to allow its operations on an International airport.

All limit switches are proximity switches.

### MAIN SAFETY FEATURES

**Flow control valves** regulate the rate of lowering of platform and bridge under all conditions. **The no-return piloted valves** prevent any rapid uncontrolled descent due to rupture of hydraulic lines of the lifting rams (in case of rupture of hydraulic lines or engine breakdown, the rams remain in position).

The hydraulic translation motor is controlled by a solenoid valve. **The extension** of the stabilizers stops loader travel. All hydraulic circuits are protected by pressure limitation valves

All control valves are solenoid operated  
All fuses have been replaced by circuit breakers



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