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GENERAL SPECIFICATIONS
ATR –45–N SIGNALIER

This section describes each of the ATR-45-N major (standard) components.

PLATFORM – 40" x 60" inside diameter with 24" door. Constructed of 1 ½" aluminum pipe schedule 40 bent at 6" radius for corner strength. Floor is aluminum diamond plate 3/16" with 4" kick plate.

PERSONNEL RESTRAINT SYSTEM – A safety belt or harness and a lanyard are provided. The anchor for the lanyard is attached to the upper platform support.

INDIVIDUAL LOWER CONTROLS – Individual full-pressured controls at the turret actuate all boom functions. An emergency stop and a tool selector control are located at the upper controls. The lower control station is equipped with a selector valve to override the upper controls.

SINGLE STICK UPPER CONTROL – The full-pressure single-stick upper control includes a safety trigger to prevent inadvertent operation. The lift movements correspond with control handle movements.

HYDRAULIC PLATFORM ROTATOR – A hydraulic platform rotator, operated by a control lever, rotates the platform 180 degrees from one side of the outer/inner boom assembly, across the end-hung position, to the other side of the outer/inner boom assembly.

HYDRAULIC PLATFORM LEVELING – A master and slave cylinder controls platform leveling. The leveling system can be operated from the upper controls to adjust platform leveling, tilt the platform for clean out, or to ease the removal of an injured operator.

OUTER/INNER BOOM ASSEMBLY – The outer/inner boom assembly includes an outer boom, telescopic inner boom, extension system, and hose assemblies. The outer boom consists of a 8 in. x 10 in. (203 mm x 254 mm) steel section. The 6 ½ in. x 8 ½ in (165 mm x 216 mm) rectangular aluminum inner boom is housed with the outer boom. The inner boom can be easily removed and disassembled for service and inspection. The extension system consists of a hydraulic cylinder, two integral holding valves, and dual #50 roller chains housed entirely within the boom assembly. The hoses routed through the outer/inner boom assembly are fully contained within the boom assembly.

The outer/inner boom assembly articulates from 25 degrees below horizontal to 85 degrees above horizontal. Actuated by a double acting cylinder that has two, integral holding valves, the outer/inner boom assembly is offset to one side to provide easy access to the platform. A boom support cradle and a boom tie down strap are included.

LOWER BOOM – The rectangular 8 in. x 10 in. (203 mm x 254 mm) high strength steel lower boom is designed for maximum strength and rigidity. The double acting cylinder, with an integral holding valve, allows the lower boom to articulate from horizontal to 80 degrees above horizontal. The lower boom encloses a parallelogram linkage to maintain the knuckle at a constant angle to the turret.

CYLINDERS – Both the upper and lower cylinders are a threaded head-cap design. The upper cylinder is equipped with two integral holding valves that prevent down creep and to lock the booms in position in the event of hose failure. The lower cylinder is equipped with one integral holding valve.

TURRET – The turret wings are designed for strength and rigidity. The bearing cover is continuously welded to seal out moisture and prevent foreign materials from obstructing the turret rotation. The turret plate is machined to provide a flat surface to support the rotation bearing.

CONTINUOUS ROTATION – Unrestricted rotation is accomplished by a hydraulically driven worm and spur gear with a shear ball rotation bearing. The critical bolts holding the lift to the rotation bearing and the rotation bearing to the pedestal are hex head capscrews. These critical bolts are torque seal marked to provide a quick means of detecting any turning of the bolt upon inspection. The eccentric ring backlash adjustment (gearbox pinion adjustment) is described in the "Adjustment" Section of the Service Manual. Also refer to drawing in the "Adjustment" section to set gear backlash.

LUBRICATION – Non-lube bearings are used at most points of motion. The rotation bearing and extension chain require periodic lubrication.

PEDESTAL – The pedestal is tubular with reinforced mounting plate. The top plate of the pedestal is 1-1/4 in. (32 mm) thick and machined flat to support the rotation bearing.

HYDRAULIC OIL RESERVOIR – A 17 gallon (64.41) hydraulic oil reservoir is built integral to the pedestal. The reservoir includes anti-splash baffles and two sight gauges for quick hydraulic fluid level checks.

HYDRAULIC SYSTEM – The open-center hydraulic operates at 2700 psi (190 kg/cm2) at 6 gpm (22.7 lpm). A 10-micron return line filter, mounted above the hydraulic oil level and inside the pedestal, can be easily changed without draining the reservoir. The 100 mesh (149 micron) suction strainer in the reservoir can be removed for cleaning. A gate valve, located below the reservoir, prevents oil loss when the pump is serviced. A magnetic drain plug attracts metal particles from the oil.

PAINT – The complete unit is primed and painted prior to assembly. Safety yellow or Bell white enamel paint is standard.

HOSES AND FITTINGS – The hoses routed through the booms are high pressure and nonconductive with swaged hose end fittings. Retainers separate the hoses inside the booms to prevent chafing and nylon sleeves are installed over hoses at points of movement. Reusable fittings can be installed if a hose is damaged.

MASTER CONTROL – The master control energizes the upper and lower control circuits, including engine start/stop and optional two-speed throttle control.

ENGINE START/STOP – The start/stop circuit has been designed so the lift cannot be operated unless the truck ignition switch is in the "RUN" position and the master control is activated. This feature makes it difficult for unauthorized individuals to operate the lift when the truck is locked. An air cylinder at the upper controls and a toggle switch at the pedestal energize this system.

MANUALS – Two operator's manuals and two service manuals are included with each aerial lift.

EMERGENCY POWER (standard) – The emergency hydraulic pump is driven by a DC motor, which is powered by the truck-engine battery. The system is connected in parallel with the main pump and is designed for non-continuous operation. An air cylinder at the upper controls and a toggle switch at the pedestal are used to energize the system.

SET OF TOOL POWER PORTS (standard) - A set of power ports are installed at the platform to accommodate an open center tool.

TOOL POWER AT THE GROUND CONTROLS (optional) – The hydraulic tools must be open-centre and operate satisfactorily at 2500 psi (176 kg/cm2) and 6 gpm (22.7 lpm).

<u>BODY</u> – Standard recommended 11' service body with a 4' rear floor extension. Aluminum tread plate on top of compartments and standard shelving. Access step at rear.

Jib with hydraulic winch also require rear H-Type outriggers.

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ATR-45-N SIGNALIER
DIMENSIONAL SPECIFICATIONS

GENERAL SPECIFICATIONS - Based on 36 in (0.91 m) Frame Height
Horizontal Reach……32 ft.
Standard Platform Capacity……..600 lbs.

Standard Pedestal
- **Height to Bottom of Platform…….40 ft.**
- **Working Height……...45 ft.**
- **Stowed Travel Height…….10 ft. 2 in. on 36" frame height**
- **Weight of Lift……..3,500 lbs.**

Hydraulic System
- **Operating Pressure……..2700 psi**
- **Flow Rate……..6 gpm**
- **Filtration……...10 micron Return**
- **……...100 mesh Suction**
- **System Type…….Open Center**
- **Power Source……....PTO Pump**

ATR-45-N
VEHICLE SPECIFICATIONS

Recommended Cab to Rear……..84 in. Axle Dimension
Frame Section Modulus……10.1 in.
Frame Resisting Bending Moment……..727,200 in-lbs.

Axle Ratings	**Recommended**
GVWR	**19,000 lbs.**
GAWR (Front)	**7,000 lbs.**
GAWR (Rear)	**13,000 lbs.**
Approximate Weight for Stability	**13,000 lbs. for 45-N**

NOTES: Actual GVWR and GAWRs should be based on the weight and weight distribution of the chassis, body, lift, ballast (if required), accessories, and the desired payload.