

# INSTRUCTION MANUAL

## WARNING

### IMPORTANT SAFETY RULES

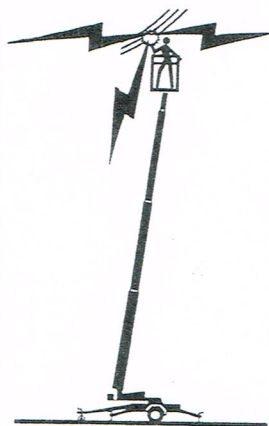
Please study carefully these Safety Rules and Operating Instructions and make sure all personnel read and understand them completely before using the Denka Lift.

**UR UP-RIGHT**

TELESCOPING BOOM LIFT

# DENKA-LIFT

## SAFETY RULES AND OPERATING INSTRUCTIONS



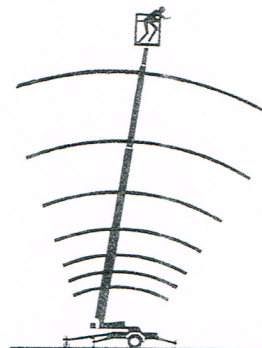
Do not use within 10 ft. of power lines.



Do not use when base is not level.



Do not stand on midrail or top edge of platform.



If horn sounds, retract first and then lower boom. DO NOT CONTINUE TO OPERATE.

## SAFETY RULES

- **Before using Denka-Lift**, thoroughly inspect the machine for damage such as cracked welds or structural members, loose or missing fasteners, hydraulic leaks, or damaged cables or hoses. DO NOT use damaged equipment. DO NOT change operating or safety systems.
- **Before operating Denka-Lift**, all four outriggers must be extended and locked. All four leveling jacks must be in contact with a firm surface. THE BASE OF THE MACHINE MUST BE LEVEL.
- **Always** check clearances above, below, and to the sides of the platform and boom.
- **Do not** operate the machine within 10 feet of electric power lines. This machine is NOT insulated.
- **Always** attach safety belt lanyard to attachment rings on the platform.
- **Do not** exceed maximum platform load.
- **Do not** sit, stand, or climb on midrail or top edge of platform.
- **Do not** use planks, ladders, or other devices to increase height of platform.
- **Do not** use the boom as a crane.
- **Do not** recharge batteries near sparks or open flame. Batteries that are being charged emit highly explosive hydrogen gas.
- **Do not** operate machine during charging cycle.
- **Do not** stand under platform when in operation.
- **Do not** rotate the machine with the outriggers stowed.
- **Unit** should be unhitched from the towing vehicle before use.

SAFETY RULES AND OPERATING INSTRUCTIONS

# PRE-OPERATION CHECK

(1) Turn Power switch **H** to "ON" position.

(2) If battery voltage indicator **K** reads below 19.5, the boom will not go up or extend. Batteries need charging. [See Operation, Step (9)].

(3) Check that Emergency Stop switch **G** is released. (Twist red knob clockwise.)

(4) Check that Control Switch **J** is in "Ground Control" position.

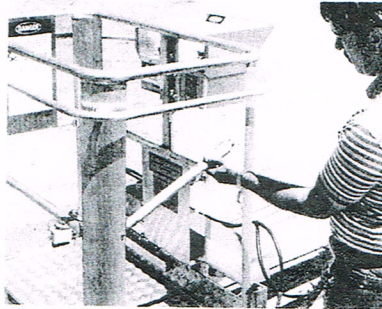
(5) Check all ground controls for damage and proper function.

(6) Extend boom as far as it will go by pressing "Extend Boom" switch **C**. This will lower platform to provide easy access.

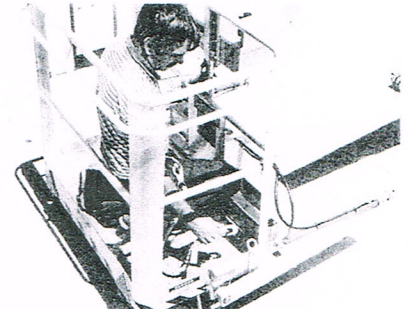
(7) Place Control Switch **J** in "Platform Control" position.

(10) Check that Emergency Stop switch is released (twist clockwise).

(11) Check that Moment Limiting system is functioning by trying to elevate boom from platform while boom is extended as far out as it will go. If functioning properly, the boom will not elevate unless you first retract it. This system is designed to limit the amount of side reach so that the machine will remain stable. NEVER OPERATE UNIT IF MOMENT LIMITING SYSTEM IS NOT WORKING PROPERLY.



(8) Enter platform, push back latch, lift mid-rail.



(9) Attach lanyard from safety belt to eye ring at corner of platform.

# OPERATION

(1) Always check clearances above, below and to the sides of the platform and boom *before* elevating, extending, retracting or rotating boom.

(2) Retract boom until Moment Limiting system will allow elevation.

(3) Elevate boom first (before extending) by pushing forward on Right joystick.

(4) Extend boom (after elevating) by pulling back on Left joystick.

(5) Rotate boom right or left by moving Left joystick in desired direction.

(6) When finished with elevated

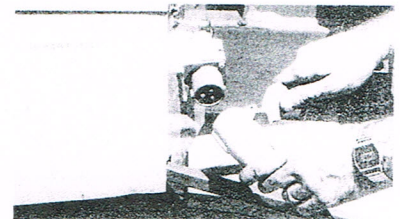
work, **RETRACT BOOM FIRST** (before lowering) by pushing Left joystick forward.

(7) After boom has been retracted, lower boom by pulling back on Right joystick.

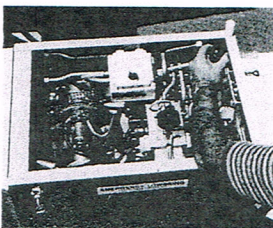
(8) Machine is equipped with a warning horn. If horn sounds, retract first and then lower boom immediately. Check for problem and correct it before using unit. The following conditions will cause warning horn to sound:

- A) Unit is not level.
- B) Boom hydraulic valve is leaking.
- C) Fault in primary moment unit switch circuit.

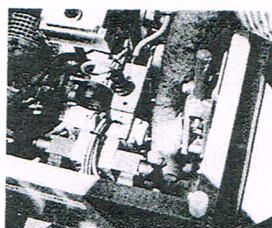
(9) The unit is equipped with an automatic battery charger. Connect battery charger to a 110V/6 Amp A.C. power source. Battery condition is shown by indicator lights **L**. Charger will turn off when batteries are fully charged. Do not operate during charging cycle.



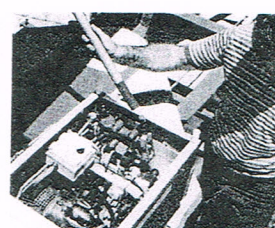
## EMERGENCY LOWERING



(1) Turn black knob fully clockwise.

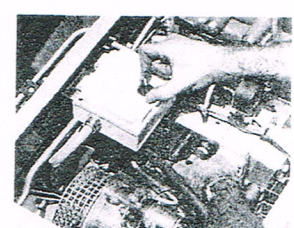


(2) Turn red knob on lower right solenoid fully clockwise.



(3) Install handle extension (stored in storage compartment) and stroke pump back and forth to retract boom.

Note: Boom must be fully retracted before it can be lowered.



(4) After boom is fully retracted, it can be lowered by turning switch on Manual Lowering box clockwise and turning red knob, on left side of valve block, counter clockwise.

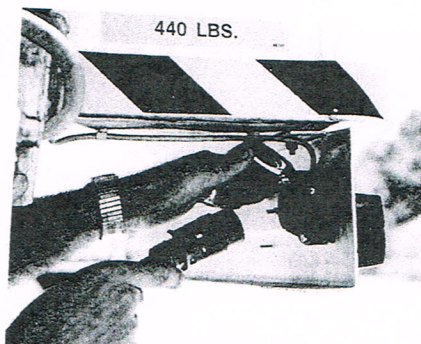
**NOTE:** (1) The lowering speed can be regulated by turning red knob in or out (2) You must hold switch in clockwise position to lower boom

# PREPARATION FOR USE

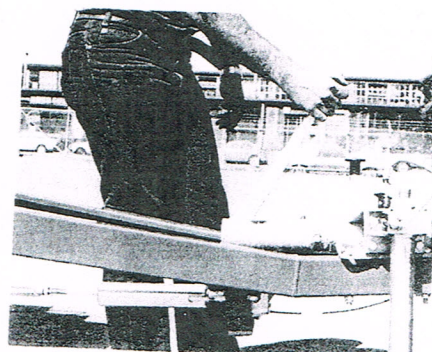
(1) Position unit on a firm, level surface as close to work location as possible.



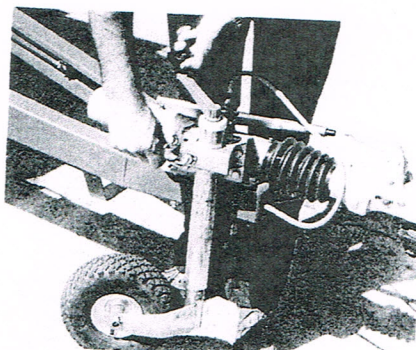
(2) Disconnect light cable from towing vehicle.



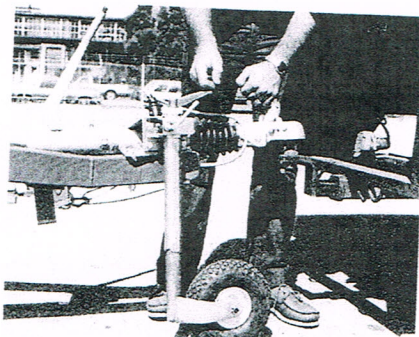
(3) Disconnect light cable from underside of platform.



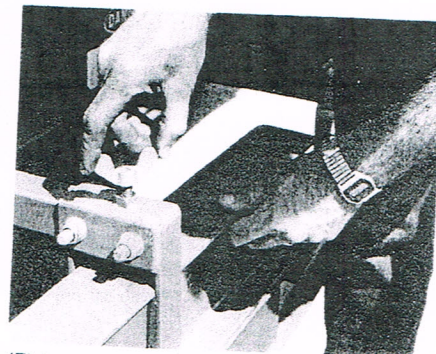
(4) Apply brake by pulling back on hand lever.



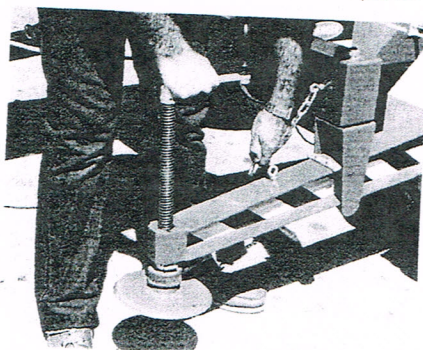
(5) Lower support wheel by loosening screw and allowing wheel to lower to ground. Tighten screw to lock in place.



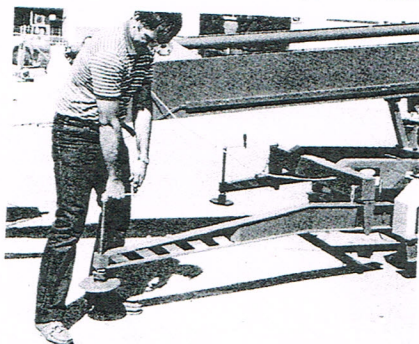
(6) Disconnect unit from towing vehicle by pulling up on release lever and at the same time crank down the support wheel.



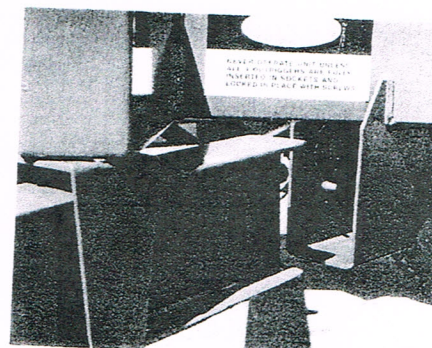
(7) Loosen outrigger retaining screw.



(8) Extend rear outriggers first, then front outriggers.



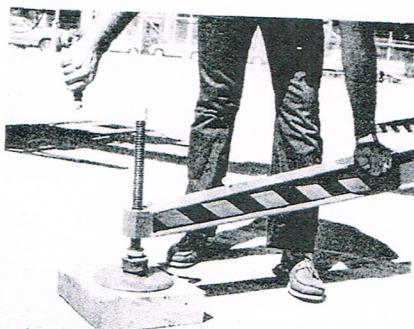
(9) Rotate outriggers to operating positions.



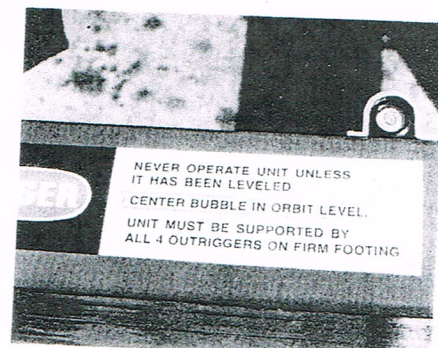
(10) Insert all four outriggers *fully* into sockets.



(11) Secure all four outriggers by tightening screws.

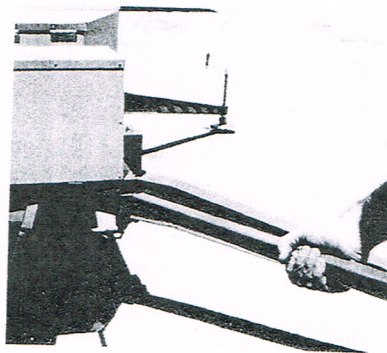
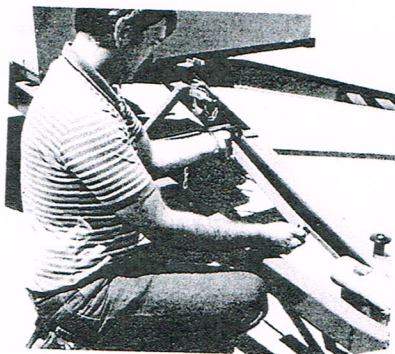


(12) Place wood blocks (4"x12"x12") under each outrigger jackscrew pad & crank down jackscrews until unit is level. Bubble must be centered in orbit level. Adjust jackscrews until unit is level. Bubble must be centered in orbit level. Never operate unit unless it has been leveled.



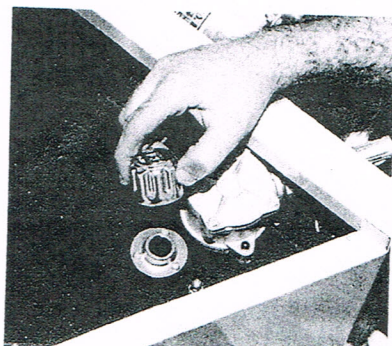
**Note:** Boom will not elevate or extend unless all four outriggers are properly installed.

# MANUAL ROTATION

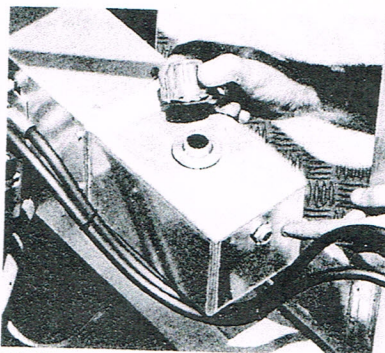


(1) Boom can be rotated manually by installing rotation lever in socket adjacent to battery box. Push the lever manually in either direction to rotate boom.

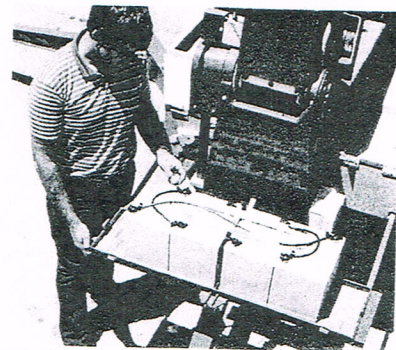
## REGULAR MAINTENANCE



(1) Check hydraulic oil level in main hydraulic tank.



(2) Check hydraulic oil level in platform leveling tank.



(3) Check water level in batteries.

## SERVICE PROCEDURE

### Service Intervals

	Weekly	2 Weeks	Monthly	2 Months	Yearly	2 Years
Check fluid level in batteries	●					
Inspect cables, sheaves, springs		●				
Clean and grease slide arrangement		●				
Grease slew potentiometer gear				●		
Check hydraulic oil level (2 tanks)	●					
Empty, clean and refill hydraulic tanks					●	
Check hydraulic hoses for leaks or damage	●					
Replace hydraulic hoses						●
Inspect and lubricate chains		●				
Clean and grease slide bearing strips			●			
Grease chain rollers		●				
Grease cylinder suspension			●			
Oil all moving parts of moment limit regulator			●			
Grease main axle on boom				●		

NOTE: Unit should be returned to dealer annually for required maintenance of internal boom components.

# CONTROL IDENTIFICATION

**DANGER**

BEFORE OPERATING READ AND FOLLOW ALL INSTRUCTIONS AND SAFETY RULES

**PREPARATION FOR USE**

- POSITION UNIT ON A FIRM LEVEL SURFACE
- DISCONNECT UNIT FROM TOWING VEHICLE
- DISCONNECT TAIL LIGHT CABLE FROM PLATFORM
- DISCONNECT CHARGER CORD AND PUT IT IN STORAGE COMPARTMENT
- INSTALL ALL 4 OUTRIGGERS BY INSERTING THEM FULLY INTO THEIR SOCKETS AND LOCKING IN PLACE BY TIGHTENING ALL 4 SCREWS. NOTE: BOOM WILL NOT ELEVATE OR EXTEND UNLESS ALL 4 OUTRIGGERS ARE FULLY INSERTED AND LOCKED IN PLACE
- PLACE WOOD BLOCKS UNDER EACH SCREWJACK PAD. EXTEND ALL 4 SCREWJACKS UNTIL TIRES ARE OFF THE GROUND AND THE UNIT IS LEVELLED (CENTER BUBBLE IN ORBIT LEVEL)
- DISengage ROTATION LOCK
- TURN POWER SWITCH ON
- CHECK THAT THE EMERGENCY STOP SWITCH IS RELEASED (TWIST RED KNOB COUNTERCLOCKWISE)
- CHECK THAT CONTROL SWITCH IS IN GROUND POSITION
- CHECK ALL CONTROL CONTROLS FOR DAMAGE AND FOR PROPER FUNCTION
- EXTEND BOOM FULLY BY PUSHING EXTEND BUTTON
- PLACE CONTROL SWITCH IN PLATFORM POSITION

**OPERATING INSTRUCTIONS**

- ENTER PLATFORM
- BODY BELT MUST BE WORN. ATTACH LANYARD TO RING AT CORNER OF PLATFORM
- CHECK THAT EMERGENCY STOP SWITCH IS RELEASED
- CHECK THAT MOMENT LIMITING SYSTEM IS FUNCTIONING BY TRYING TO ELEVATE PLATFORM WHILE BOOM IS FULLY EXTENDED. THE PLATFORM SHOULD NOT ELEVATE WITHOUT FIRST RETRACTING THE BOOM
- CHECK FOR OBSTRUCTIONS ABOVE AND TO THE SIDES OF THE PLATFORM AND BOOM
- ELEVATE BOOM BY MOVING RIGHT HAND JOYSTICK FORWARD
- ROTATE BOOM BY MOVING LEFT HAND JOYSTICK RIGHT OR LEFT
- AFTER BOOM HAS BEEN ELEVATED, EXTEND BY MOVING LEFT HAND JOYSTICK FORWARD
- TO RETURN TO GROUND LEVEL, FIRST RETRACT BOOM BY PULLING BACK ON LEFT HAND JOYSTICK AFTER BOOM HAS BEEN RETRACTED, LOWER BOOM BY PULLING BACK ON RIGHT HAND JOYSTICK.

**DANGER**

SECURE UNIT AGAINST UNAUTHORIZED USE BY TURNING POWER SWITCH "OFF" AND REMOVING KEY. CLOSE AND LOCK COVER OF GROUND CONTROL PANEL

## GROUND CONTROLS

- (A) Elevate Boom switch - press to operate.
- (B) Lower Boom switch - press to operate.
- (C) Extend Boom switch - press to operate.
- (D) Retract Boom switch - press to operate.
- (E) Rotate Left switch - press to operate.
- (F) Rotate Right switch - press to operate.

- (G) Emergency Stop switch - press to stop all powered functions of unit. To release switch to operate unit, twist red knob clockwise.
- (H) Power switch. To operate unit switch must be in the "ON" position.

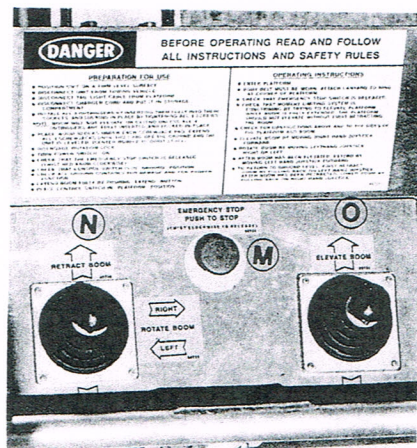
**DANGER!!** After using unit, secure against unauthorized use by turning power key switch "OFF" and removing key.

- (J) Control Switch - to operate unit from ground, place in "Ground Control" position. To operate from platform, place in "Platform Control" position.
- (K) Battery voltage indicator.
- (L) Battery charger indicator lights (3). When charging, green indicates full battery charge, red indicates unit is being charged, yellow indicates that in three to six hours the batteries will be fully charged.

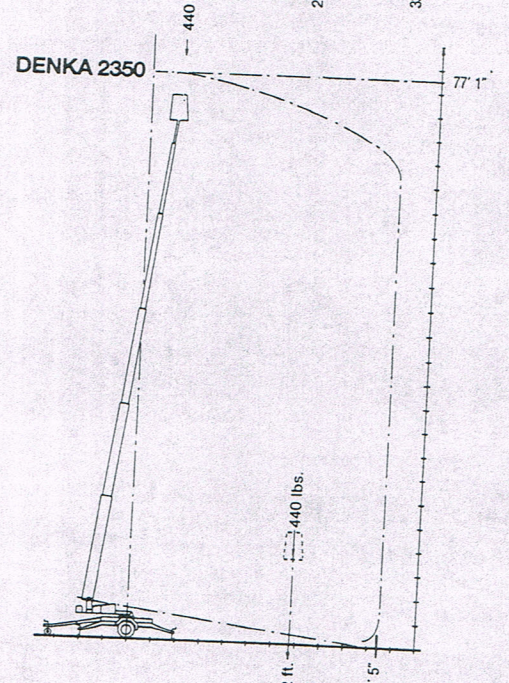
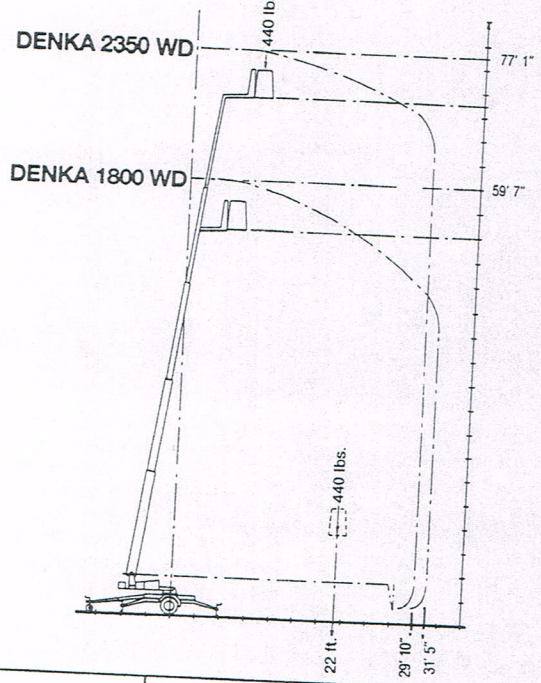
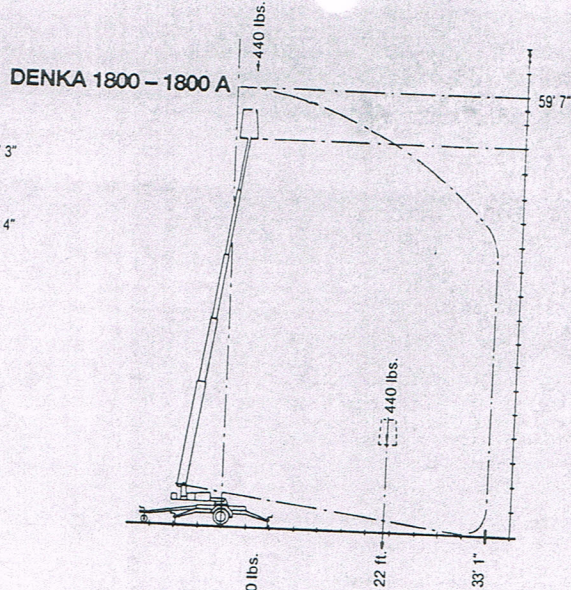
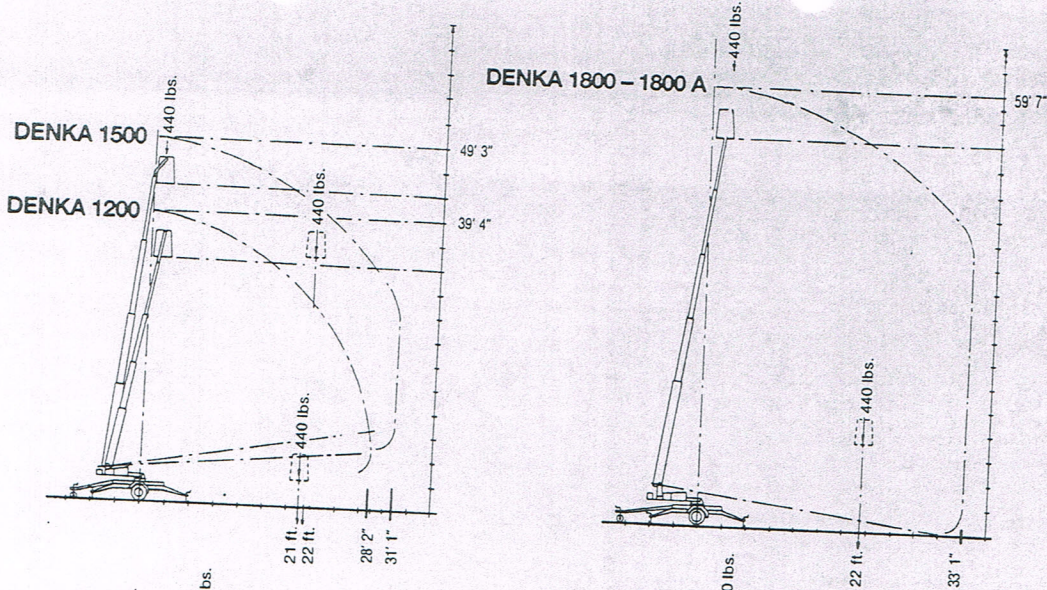
## PLATFORM CONTROLS

- (M) Emergency Stop switch - push to stop all powered functions of unit.
- (N) Left joystick
  1. Pull back to extend boom.
  2. Push forward to retract boom.
  3. Move to right to rotate boom to right.
  4. Move to the left to rotate boom to left.
- (O) Right joystick
  1. Push forward to elevate boom.
  2. Pull back to lower boom.

Note: To operate joystick controls, lift lower portion of knob with fingers.



Note: To operate joystick controls, lift lower portion of knob with fingers.



	MK2-DENKA 1200	MK5-DENKA 1500	MK3-DENKA 1800	MK6-DENKA 1800A	MK8-DENKA 1800WD	MK4-DENKA 2350	MK7-DENKA 2350WD
Maximum Side Reach	28 ft. 2 in.	31 ft. 1 in.	33 ft. 1 in.	33 ft. 1 in.	31 ft. 5 in.	31 ft. 5 in.	29 ft. 10 in.
Maximum Working Height	39 ft. 4 in.	49 ft. 3 in.	59 ft. 7 in.	59 ft. 7 in.	59 ft. 7 in.	77 ft. 1 in.	77 ft. 1 in.
Weight	2,844 lbs.	3,086 lbs.	4,299 lbs.	3,924 lbs.	4,145 lbs.	4,453 lbs.	4,740 lbs.
Transport Height	5 ft. 5 in.	7 ft. 3 in.	6 ft. 11 in.	7 ft. 3 in.	6 ft. 8 in.	6 ft. 11 in.	6 ft. 9 in.
Transport Width	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.	5 ft. 3 in.
Transport Length	20 ft. 5 in.	22 ft. 8 in.	24 ft. 5 in.	24 ft. 6 in.	25 ft. 5 in.	27 ft. 0 in.	27 ft. 9 in.
Battery Capacity	4 @ 6 Volt = 24 Volts (240 Amp/Hrs.)						
Turning Circle	360° Continuous						
Built-in Battery Charger	110 Volt/6 Amp — 24 Volt/35 Amp						
Proportional Controls	No	No	Yes	Yes	Yes	Yes	Yes

Specifications Subject to Change Without Notice

**SALES • RENTAL • SERVICE**

**UP-RIGHT**  
AERIAL PLATFORMS

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