



MAN-CO MFG., INC.

2725 19th Street S.E. • P.O. Box 13114 • Salem, Oregon 97309 U.S.A.
Office (503) 362-2341 • FAX (503) 362-2536

*MFG.: MANCO- MFG.
NAME: HYDRO-PARATROOPER
TYPE: NON-KIDDLER*

DAILY INSPECTION CHECKLIST - PARATROOPER

1. Check blocking, outriggers, and landing gears
2. Check leveling
3. Inspect loading platforms and jacks
4. Inspect boom braces and turnbuckles (Rim Drive models)
5. Check snap keys on a.) dome retainers; b.) bows and bow braces;
c.) hanger blocks; d.) shock absorbers; e.) drive rim (Rim Drive models)
f.) cotter key on Park models
6. Inspect bow safety turnbuckles
7. Check electrical connections and plugs
8. Check car lock nut and lock washer
9. Inspect lap bars and check operation
10. Inspect center panels and panel locks (some Rim Drive models)
11. Check hydraulic oil tank level
12. Inspect hydraulic hoses for leaks
13. Check brake operation
14. Inspect fence and fence jacks
15. Check car suspension safety loop bolts
16. Inspect safety valve linkage and limit switch. (Ride should not exceed 45°)
(Hydraulic model)
17. Operate Paratrooper through one complete ride cycle of proper functioning.
Ride should run at 12½ RPM maximum

Hurricane • Paratrooper • Super Slide • Tip Top • Round Up • Riptide

MAN-CO Builds Thrills!

INTRODUCTION

This manual is intended to be used as a general guide for the operation and maintenance of your ride. Kilinski Manufacturing Co. is constantly striving to improve performance, efficiency and safety; therefore, certain improvements may not be reflected in the text of the manual. Any major revisions or additions to the manual will be sent to you free of charge. Specially engineered features purchased for individual rides may not be incorporated in the manual.

WARRANTY

Kilinski Manufacturing Co. does hereby warranty all parts and materials which are manufactured by us against failure under normal use and service for a period of one hundred eighty (180) days after the date of sale. Under these conditions, all such parts and materials will be invoiced to the customer upon shipment by us of required replacement parts. Full credit will be allowed on such parts subject to the following conditions:

- (A) If they are returned to us, freight PREPAID, within a period fifteen (15) days after date of invoice.
- (B) After our examination of said parts they prove to our satisfaction that such defects did exist. This is our sole obligation under this warranty.

On parts which are purchased and not manufactured by Kilinski Manufacturing Co., the original manufacturer's warranty will apply. However, the same policy as above does exist if replacements are ordered and shipped by us.

It is our desire to serve our customers promptly and efficiently; however, the laxity of some of our customers in returning warranty parts has brought about this policy which must be adhered to unless other arrangements are made in writing with an official of our Company.

DISCLAIMER

This material has been provided to you by Man-Co Manufacturing, Inc. Man-Co does not warrant the accuracy or completeness of this information. The Frank Hrubetz Co., and the Kilinski Manufacturing Co., (KMC) are not predecessors of or related to Man-Co and Man-Co has absolutely no warranty responsibility (either express or implied) for any Hrubetz or KMC products or parts.

FRANK HRUBETZ & CO., INC.

SALEM, OREGON

Instructions To Assemble The Hydraulic Paratrooper Stationary Model

The first step to install the hydraulic Paratrooper is to select the location and prepare the foundations according to the enclosed space diagram. Note that the minimum space is 55 feet wide and 61½ feet deep. Also, it is desirable that the area be as level as possible.

After the concrete piers have set, the assembly of the ride can begin by placing the center frame assembly in position on the two center piers. This unit weighs about 12,000 pounds and requires the services of a crane or lift truck to handle it. This frame should then be levelled in all directions by the use of thin wood shims between the steel and concrete when necessary.

The four side sills can now be attached to the main frame and braced with the tubular struts as shown in the diagram. This will place the end pads of the side sills on the outer concrete piers. The pads should be brought up snug by using thin wooden shims between the steel and concrete. Shingles are ideal for this purpose.

The center ornament and center petal assembly should now be installed as shown on the diagram. Use lock washers on holddown bolts, and tighten center petals with the set screws provided.

The assembly of the wheel is next and is accomplished by attaching the spokes to the center hub as shown on the diagram. Place the spoke over the two pins in the lower hub plate, drive down and insert the single spoke pin at the top of the hub - Continue successively until all ten spokes are attached. Check all safety pins.

Follow this by assembling the inter-spoke struts (2½" x 2½" x ¼" angle bars), between the spokes as shown. Successively place the angle bars over the pins in the spokes, being sure that the vertical leg of the angle points down. Insert all safety pins and check.

The next step is the assembly of the car support bows. These are the 2½" formed pipe members about 12 feet long, that fit between the ends of the wheel spokes on the outside. Begin by removing the threaded ball sockets from the ends of the spokes. Use the T-Bar wrenches which are provided for this purpose. Now hang the support bow on two wheel spokes in an upside down position as shown by the dotted line at "A", on the diagram. Then swing the bow into the upright position and install the bow braces as shown. Note that there are right and left braces. Install the threaded ball sockets and tighten snugly. Note that one ball end of one bow is adjustable. This bow should be installed last and adjusted so that the balls rest in the center of the sockets.

Next assemble the spoke tie rods as shown on top of the inter-spoke struts and the turnbuckles outward. Assemble all rods loosely before tightening, then tighten evenly, using not more than 6" leverage on the turnbuckle. Excessive tightening of these rods is undesirable and unnecessary.

The domes can now be assembled to the hangers in the center of the support bows by use of the U-shaped clevises provided for the purpose. In the assembly the holes in the two angles inside of the domes must be to the left when viewed from the outside of the ride.

Next assemble the car hangers and cars in such a manner that the passengers are facing to the right when viewed from the outside. The ride is designed to turn from left to right which allows the passengers to face in the direction they are going. Connect the hydraulic shock links to the bow angles and be sure all pins and safeties are in place. This completes the assembly of the wheel.

The spoke light stringers can now be attached to the tops of the spokes in the position shown by using the simple bar clamps which are provided. These are the $\frac{1}{4}$ " x $1\frac{1}{2}$ " x $4\frac{1}{2}$ " bars.

The assembly of the platform starts at the hinged end of the elevating boom and is illustrated in diagram "B". First bolt the notched deck board to the base of the boom as shown, then find the two platform jacks with cut-outs in the lower member and position them over the side sills, find the space bar with the 12" deck board attached and connect the two jacks as shown. Position them as to elevation so that the deck board rests on the upper member of that jack and so that its edge is centered on the jack. This forms the starting point from which the additional jacks can be situated. The procedure to follow is to move both ways from the starting point successively adding jacks and connecting them with the space bars and the platform fence. As each jack is connected it should be brought to the same level as the starting point and by using a plumb bob the outer end of the top channel should be placed 22 inches from the end of the wheel spoke. This is illustrated at "C" on the diagram. The final closure, 180 degrees from the starting point will require some readjustment but by careful measurement this can be kept to a minimum. The final step is to install the deck boards and outer step boards, an examination of which will clearly indicate the procedure.

The control column is assembled in the position shown. Connect the valve control rod and the brake cable as indicated. The push button control fits into the socket at the top of the control stand.

Electrical connection to the motors should be made in accordance with the name plate data on the motors. Two 10 HP motors are installed. The light connection is for 220-volt, three-wire, single-phase. This is broken down into 110-volt circuits at the slip ring commutator.

The circular light ring can be assembled to the domes after the cars are attached and are held in place with spring clips which fit to the handles on the rims of the domes.

After a re-check of all blocking, safeties, pins and wiring, the ride is ready for operation.

OPERATION

Complete control of the ride is centered at the control stand on which is mounted a brake lever on the left, a valve control lever on the right and two push buttons at the top. To start the rotation press the black start button on the upper box. The ride should turn from left to right. To elevate the ride press the black start button on the lower box and slowly pull the valve control lever toward you. The ride should begin to elevate. If not, check the rotation of the pump by the directional arrow on the pump housing. The ride will elevate to a maximum of 45°, at which point an automatic stop closes the valve. To lower the ride move the control lever forward and ride will slowly descend.

To stop the rotation press the red stop button on the upper box and slowly apply brake pressure on the left hand brake lever.

We recommend a ride cycle as follows: Load ride, start the pump motor, then start the rotation and allow the ride to come up to speed, about 12 - 15 seconds. Then open valve to elevate ride to maximum height, allow ride to turn 3 to 5 revolutions at maximum elevation, then reverse valve control and allow ride to descend. When about one-half way down, press stop button on rotation and slowly apply brake. When ride nears down position ease off on valve control to lessen shock of hitting bottom.

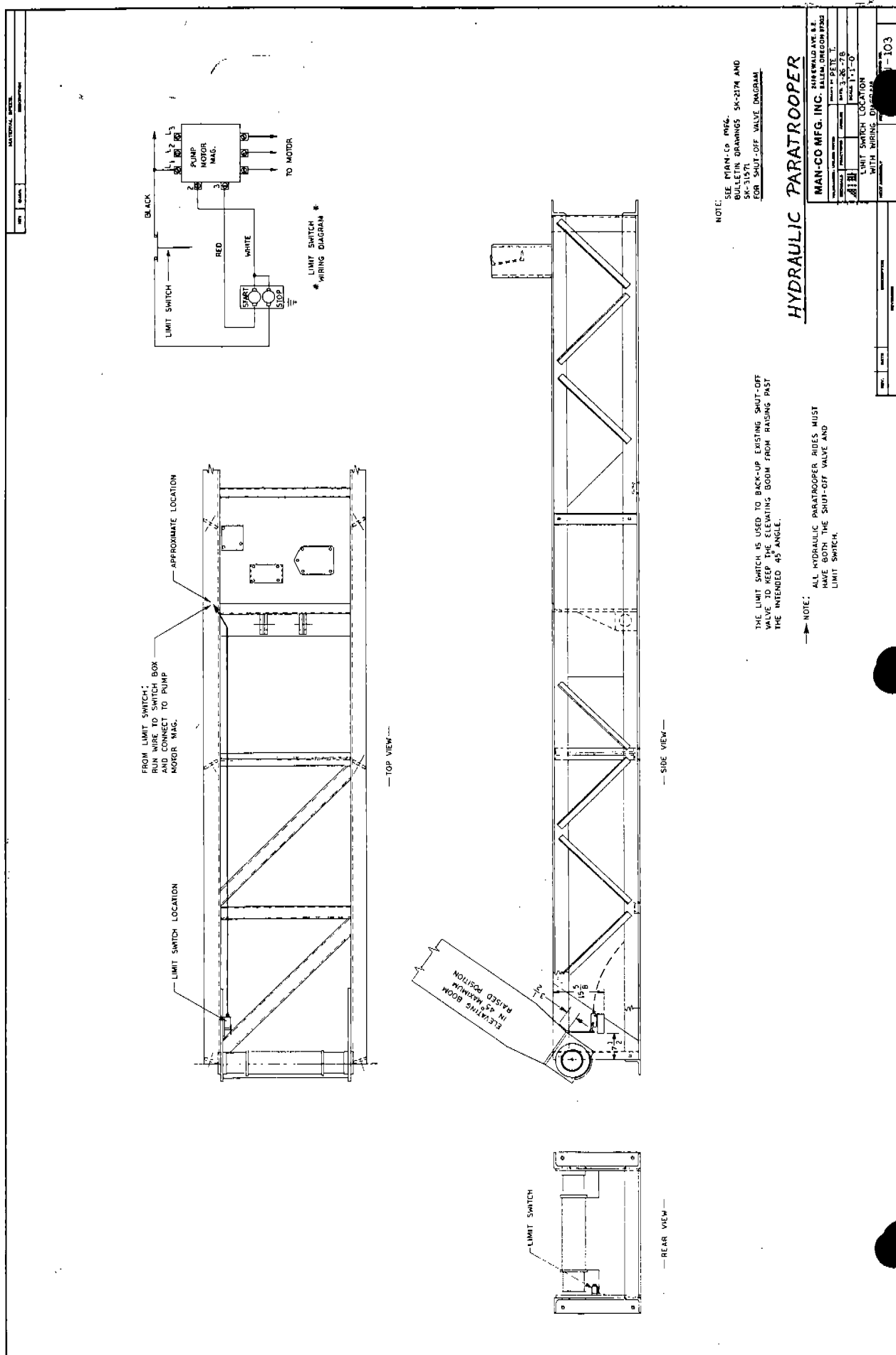
HINTS

Keep ride balanced when not running full.

In starting, check safety bars as they pass control stand on first revolution.

Before starting, be sure all are seated and no one is on platform.

Keep eyes on ride at all times. Be alert!



NOTE:
SEE PLAN CO. 1062
FOR ELECTRICAL
SCHEMATIC DRAWINGS SK-2174 AND
SK-3127
FOR SHUT-OFF VALVE DIAGRAM

THE LIMIT SWITCH IS USED TO BACK-UP EXISTING SHUT-OFF
VALVE TO KEEP THE ELEVATING BOOM FROM RAISING PAST
THE INTENDED 45° ANGLE.

NOTE:
ALL HYDRAULIC PARATROOPER RIDES MUST
HAVE BOTH THE SHUT-OFF VALVE AND
LIMIT SWITCH.

HYDRAULIC PARATROOPER

MAN-CO MFG. INC. - BIRMINGHAM, ALA.	
PROJECT NO.	SK-3127
DATE	1-28-78
BY	1-11-78
CHECKED BY	1-11-78
APPROVED BY	1-11-78
DESIGNED BY	1-11-78
DRAWN BY	1-11-78
WITH WIRING DIAGRAM	

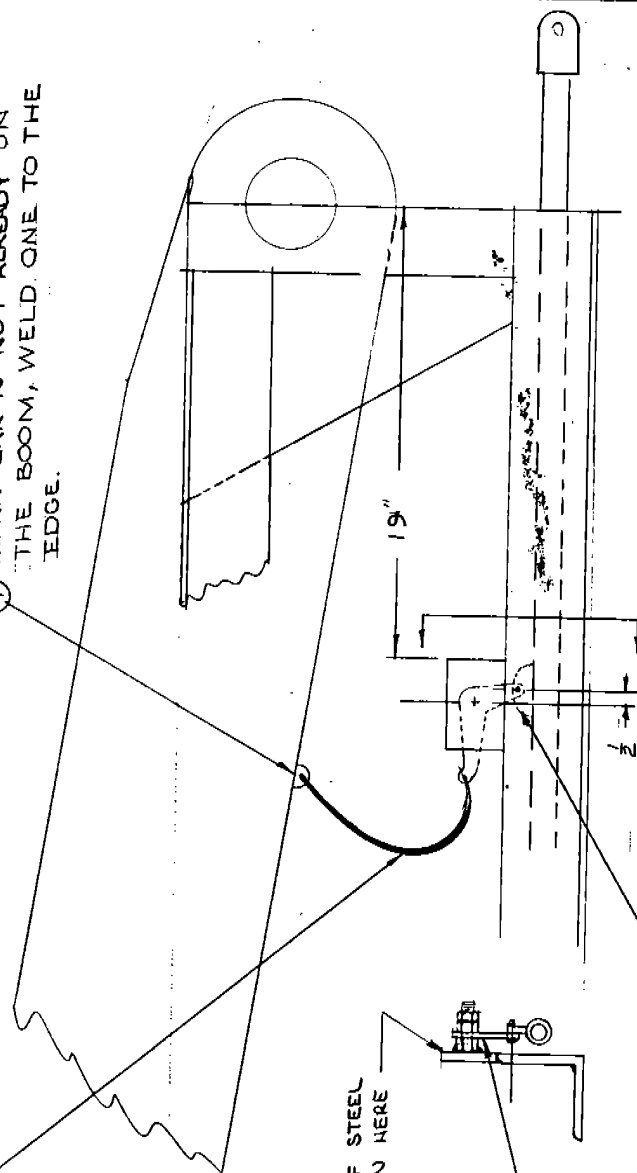
⑤ RAISE THE BOOM UNTIL WHEEL IS AT 45°
 LOOP THE CABLE THROUGH EAR ④ SO THAT
 IT IS STRETCHED TIGHTLY. CLAMP THE CABLE
 SO THE IT WITH ALWAYS STOP AT THIS ANGLE

④ IF AN EAR IS NOT ALREADY ON
 THE BOOM, WELD ONE TO THE
 EDGE.

① WELD THE SQUARE BLOCK OF STEEL
 TO THE FRAME AS SHOWN HERE

③ POSITION THE PIVOT ON THE STEEL
 BLOCK SO THAT THE HOLE IN THE
 PIVOT LEVER ALIGNS WITH THE
 HOLE VALVE ROD EAR. THEN WELD
 IT TO THE PLATE

② WELD THIS EAR TO THE VALVE ROD
 ABOUT 1/2" OFF CENTER



HYDRAULIC PARATROOPER

MAN-CO MFG. INC. 2470 EWALD AVE. S.E.	
VALVE SHUT-OFF CABLE	
DATE	2-1-74
DRAWN BY	BME
SCALE	NONE
No. SK-2174	