HORIZONTAL ROTOR

MODEL KR-400RC

INSTRUCTION MANUAL

INSTRUCTION MANUAL FOR KR-400RC ROTOR

The KENROTOR KR-400RC is designed to support and rotate medium-sized short wave amateur antennas or heavy TV antenna arrays.

When installing your antenna, follow the instructions given carefully for highly dependable long-life performance.
Careless or erroneous installation might result in poor durability.

SPECIFICATIONS:

Input Voltage	117/230vAC, 50/60HZ
Power Consumption	40 vA
Motor	24v Split phase
Rotation Time	Approx. 50sec./60Hz
End-of-Rotation Stopper	Mechanical
Rotation Torque	400 kg-cm (340 in-lbs)
Stationary Brake Torque	1500kg-cm (1300in-lbs)
Vertical Load	200 kg (440 lbs)
Permissible Mast Size	38~63ø (1½~2½ inch)
Cable	5 conductor cable #22 or larger
Weight	Rotor: 4.5kg (9.9 lbs) Controller: 3.2kg (1.5 lbs)

KENROTOR KR-400RC features:

DEPENDABILITY: Rotor unit is housed in a weather-sealed and factory-lubricated die-cast alluminum housing with melamine-resin coating.

QUIET OPERATION: Reduction gear train with moulded plastic pinions and die-cast spurs assures smooth and practically silent operation. Gears in lower revolution part are surfacehardened throughout for dependable long-life operation.

NEWLY DESIGNED CONTROLLER: Large round type meter for direct-point direction indiaction. Solid state stabilized power supply in the meter circuit provides precisely resettable direction indication, independent of line voltage fluctuation. Onece set, no recheck of calibration is necessary.

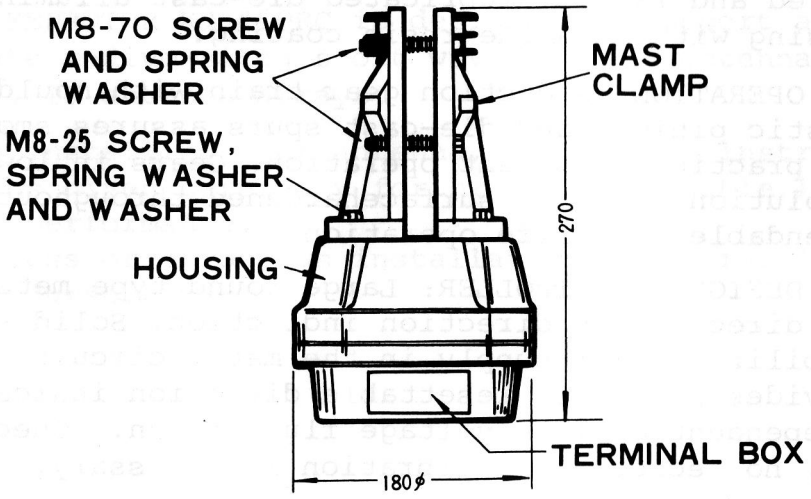
MECHANICAL END-OF-ROTATION STOPS: Rotation stops automatically at the end of each 360° rotation.

EASY-ALIGNING MAST CLAMS: The new mast gauge(pat. pending) eliminates any aligning problems. An antenna mast of 38~63ø(1½~2½ in) in diameter can be accomodate.

SIMPLE AND EASY WIRING: Only a screw-driver is all that is required. No other tool is necessary. Drip-proof plastic cover protects terminals on the rotor unit.

EASY SETTING START POSITION OF THE NEEDLE: The KR-400RC can be used in any conditions of location, as starting position of indicator needle can be fleely changable as you like it.

Fig. 1.



MUST BE USE M8-16 SCREW
IN CASE OF MOUNTING
ON A TOWER

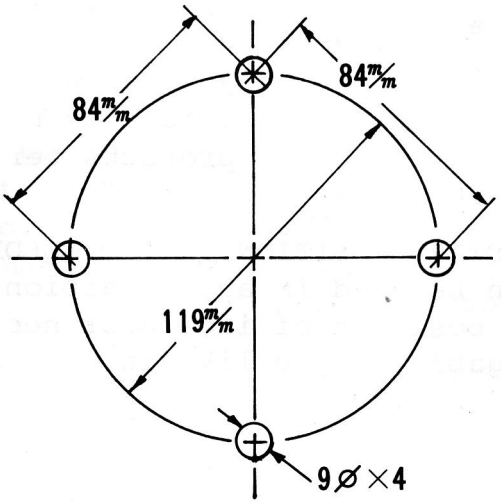
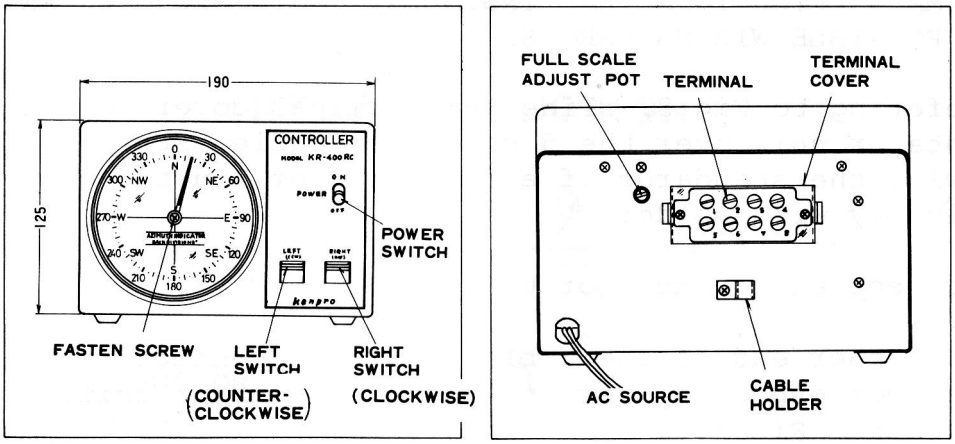


Fig. 2.



UNPACKING

Remove your KENROTOR KR-400RC from its packing carton and check each item.

Rotor Unit	1
Controller Unit	1
Mast Clamp	1
HEX. Hd. Screw	
M8-70	4
M8-25	4
M8-16	4
HEX. NUT. M8	4
Spring Washer	12
Washer	4
Instruction Manual	1

Examine if the equipment has been damaged in shipment, save the carton and packing material and notify the transportation company immediately.

ELECTRICAL INTER-CONNECTION

IT IS RECOMMENDED THAT AN ON-THE-GROUND CHECK BE MADE PRIOR TO ACTUAL INSTALLATION TO DISCOVER ANY POSSIBLE WIRING ERRORS.

Refering to Fig.3, slide the terminal cover to the rotator unit over the 5 conductor cable. Strip, twist the standards of each conductor and tin them lightly with solder.

Connect each conductor to each terminal.

The other end of the cable should be connected to the corresponding terminals of the control unit, as illusted Fig.3.

Replace the terminal cover on the rotor unit.

Plug the line cord into an AC power outlet of the correct voltage depending on control box model.

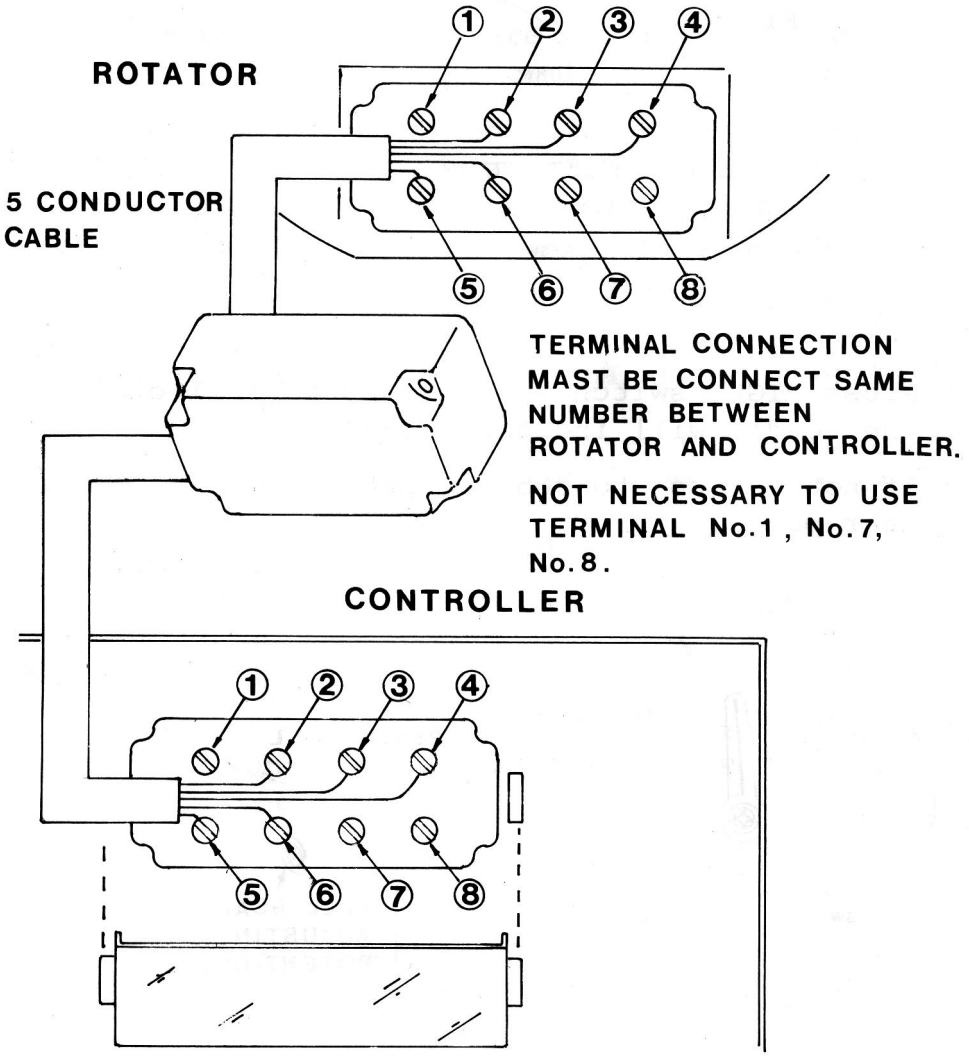
The power switch ON and pilot lamp should light, and direction needle moves untill postion of rotor direction which is set up in advance and stops.

Press LEFT or RIGHT switch, the needles turns to varantaly direction and rotor rotates to same direction.

WHEN PRESSING BOTH RIGHT AND LEFT SWITCHS
SIMULTANEOUSELY, MOTOR RUNS TO COUNTER-CLOCKWISE.

Fig. 3.

INTERCONNECTION

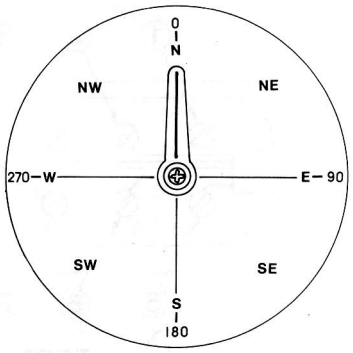


CALIBRATION

Press LEFT switch and rotates to full counter-clockwise, the indicator needle will indicates N (0°).

If not, unfasten the screw and remove indicator needle, then set up to the N(0°) position.

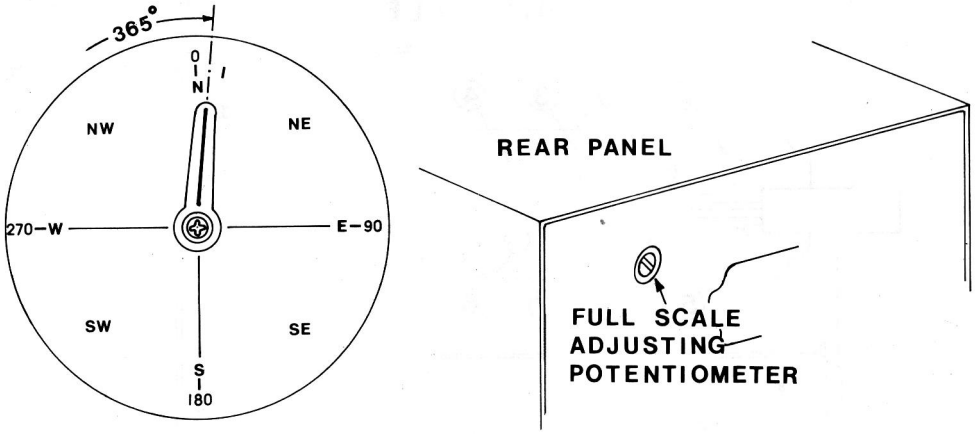
Fig. 4.



Press RIGHT switch and rotates to full clockwise, the needle will indicates 365°.

If not, adjust to 365° by potentiometer on the rear panel.

Fig. 5



INSTALLATION:

The KENROTOR KR-400RC can be mounted on a mast-top of a tower or inside tower.

It is designed for use with medium-sized antennas. The maximum load capability of a rotator is quite dependent on the physical size of antenna, mechanical installation, location of your shack and wind velocity in your locality.

Illustrated in Fig.6 and 7 are the result of our long field experience and accumlation of know-how.

An antenna should be mounted as close to the rotor as possible. Wind pressure against the antenna produces a bending force on the mast which is proportional to the length of the mast used. we suggest three feet of antenna support pipe as the practical limit.

Weight of the antenna should be balanced on either side of the boom at the mast-to-boom clamp. Balanced weight produces only axial down thrust on the rotor and the KR-400RC has the axial load rating of as high as 440 Lbs.

Unbalanced installation results in some leverage force which strains the mast at the clamping point on the rotator. Great care should be given especially in high wind areas.

When installing a bigger-than-medium-sized antenna, inside tower mounts with our KS-065 BEARING located at the top of the tower is recommended.

Extreme care must be taken to get the TOP BEARING ALIGNED exactly to the center of rotator.

Size of 5 conductor cable is important. #22 cable is good to about 100 feet, beyond that #20 cable or larger should be used.
When running co-axial cable be sure to leave enough slack to allow the antenna to rotate a full 360°.

Fig. 6

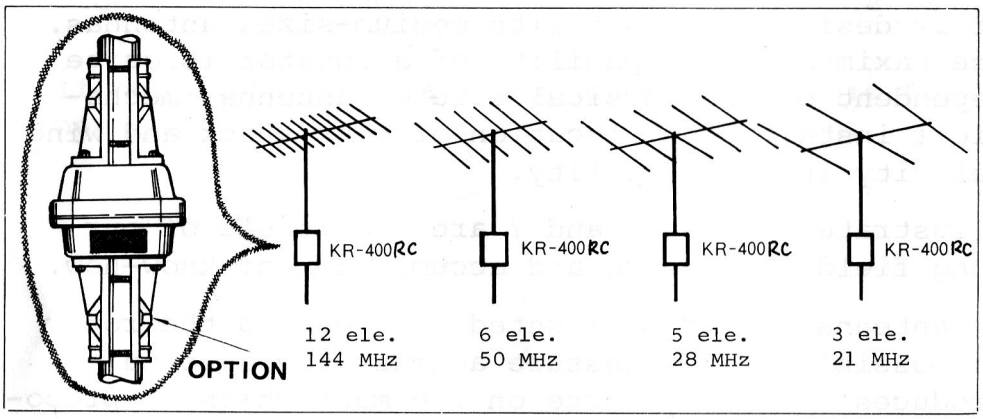
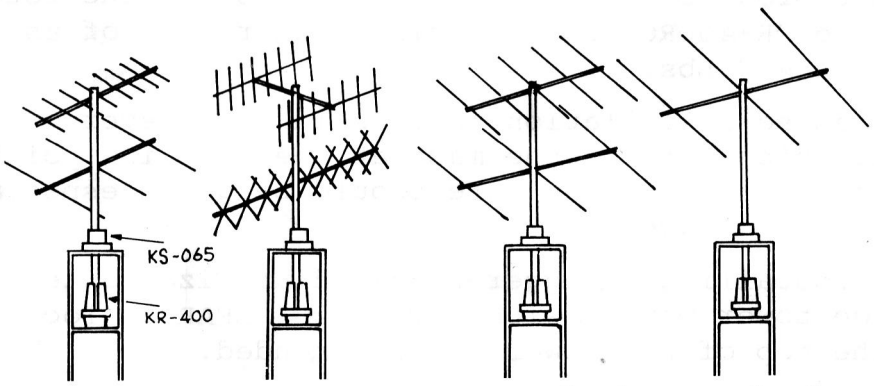


Fig. 7
Inside tower Installation



8 ele. 144 MHz and 3 ele. 21 MHz

9 ele. cross 144 MHz and stacked 8 ele. 430 MHz

5 ele. 50 MHz and 3 ele. 21 MHz

3 ele. 14 MHz

CAUTION

When not in use, turn the power switch to OFF.

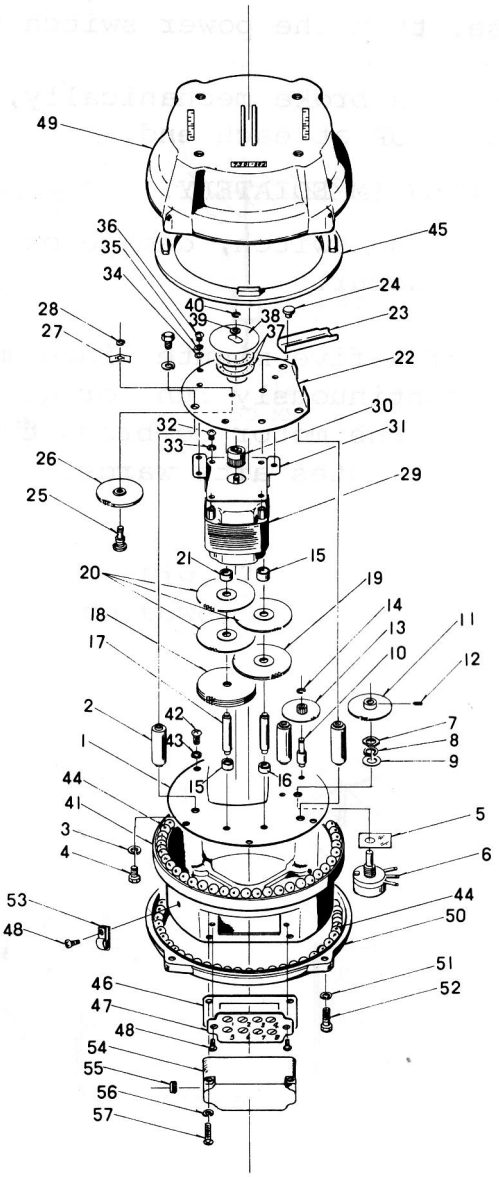
Rotor gear train is broke mechanically, when the indicator reads STOP at each end.

RELEASE THE SWITCH IMMEDIATELY.

If keep pressing the switch, damage on the motor or gear train might occur.

The motor used of a five minutes intermittent rating. However it can continuously run for as long as ten minutes, provided the motor be brought to rest for no less than ten minutes afterwards.

MODEL KR-400 RC ROTOR



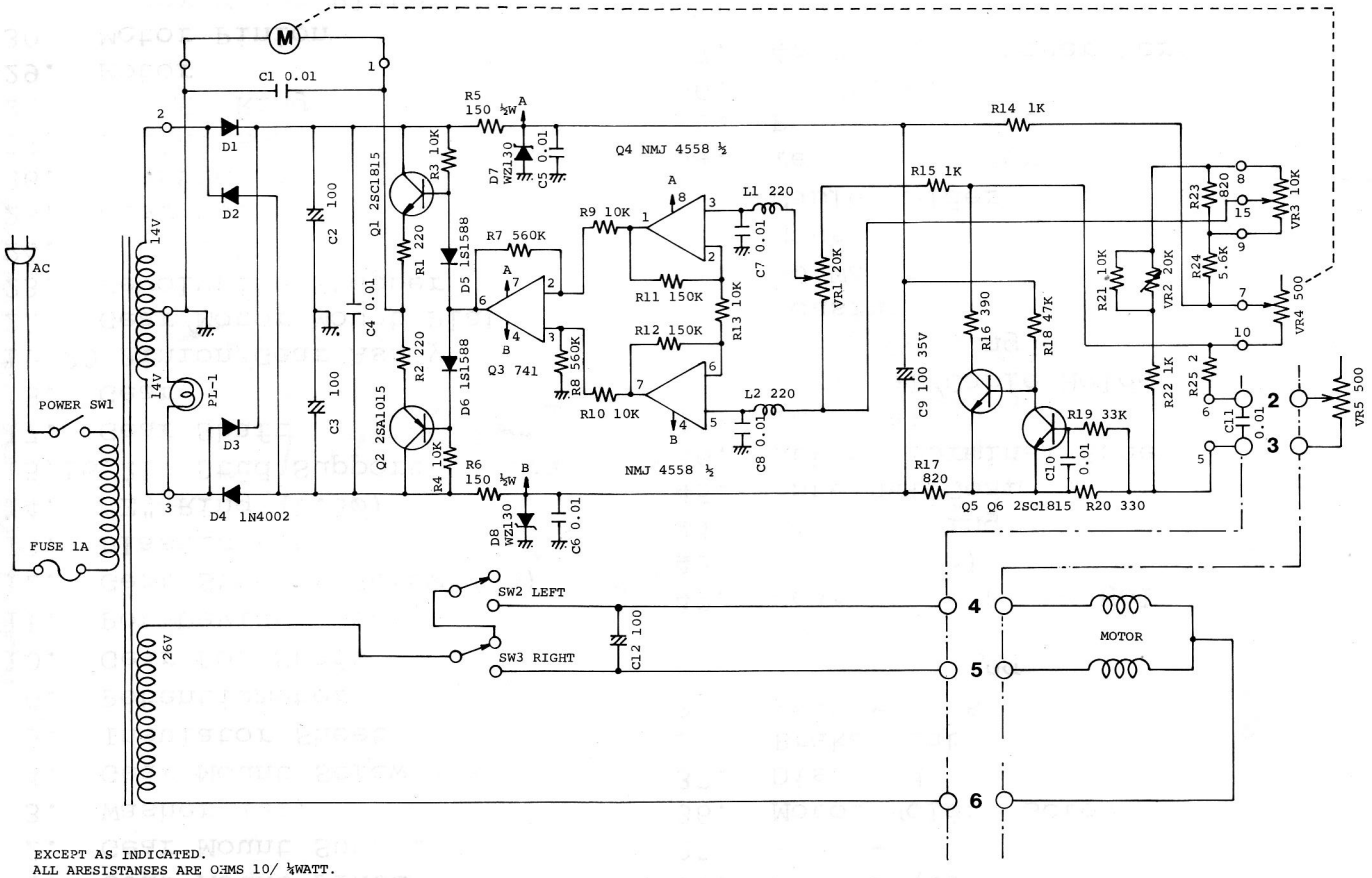
PARTS NUMBER AND LOCATION

SEE THAT SHOW NUMBERS ARE WHEN REPLACEMENT IN CASE

PARTS LIST

1. Gear Mount Plate
2. Gear Mount Support
3. Washer (6ø)
4. Gear Mount Screw (6ø)
5. Insulator Sheet
6. Potentiometer
10. Gear Pot Shaft
11. Pot Devider Gear
12. Gear Stopper Screw (3ø)
13. Plastic Pot Gear
14. "E" Ring (2.5ø)
15,16,21. Stud Support Sleeve
17. Gear Shaft
18. Gear
19,20 Pinion/Gear Ass'y
22. Gear/Motor Mount Plate
23. Revolution Stopper
24. Fixing Pin
25. Gear Pot Shaft
26. Plastic Gear
27. Spring Bar
28. 3ø "E" Ring
29. Motor
30. Motor Pinion
31. Motor Mount Plate
32. Motor Mount Screw(3ø)
33. Washer (3ø)
34. Washer (4ø)
35. - do -
36. Motor Holder Screw (4ø)
37. Disc Pad
38. Brake Plate
39. Washer (3.5ø)
40. 2.5ø "E" Ring
41. Case
42. Gear Mount Plate Holder Screw
43. Washer (5ø)
44. Ball Bearing
45. Internal Gear
46. Rubber Terminal Sheet
47. Terminal
48. Terminal/Cable Holder Screw
49. Rotor Housing
50. Housing
51. 6ø Washer
52. Housing Screw 6ø
53. Cable Holder
54. Terminal Cover
55. Rubber Grommet
56. 4ø Washer
57. 4ø Terminal Cover Screw

KR-400RC SCHMATIC DIAGRAM



EXCEPT AS INDICATED.
ALL ARESISTANSES ARE OHMS 10/ ¼WATT.
ALL CAPACITANCES ARE IN MICROFARADS.
INDUCTANCES ARE IN MICROHENRY.

WARRANTY

TOYOMURA ELECTRONICS CO., LTD. warrants the KR-400RC ANTENNA ROTOR to be free from defect in material arising from normal usage. Its obligation under this warranty is limited to replacing, or at its option repainting the rotor which, after regular installation and under normal usage and the validity of this warranty is for ONE YEAR from date of origi nal consumer purchase.

The obligation of TOYOMURA ELECTRONICS CO., LTD. does not include either the making or the furnishing of any labour in connection with the installation of such repaired responsibility for any transportation expense.

This warranty does not extend if model KR-400RC antenna rotor has been subject to misuse neglet accident, interconnect wiring, improper installation or to use in violation of the instructions furnished by us, nor does it extend to units which have been repaired or altered out side our service department, nor in cases where the serial number has been removed, defaced or changed nor to units used with accessories not manufactured or recommended by us.

KENPRO INDUSTRIAL CO.,LTD

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