

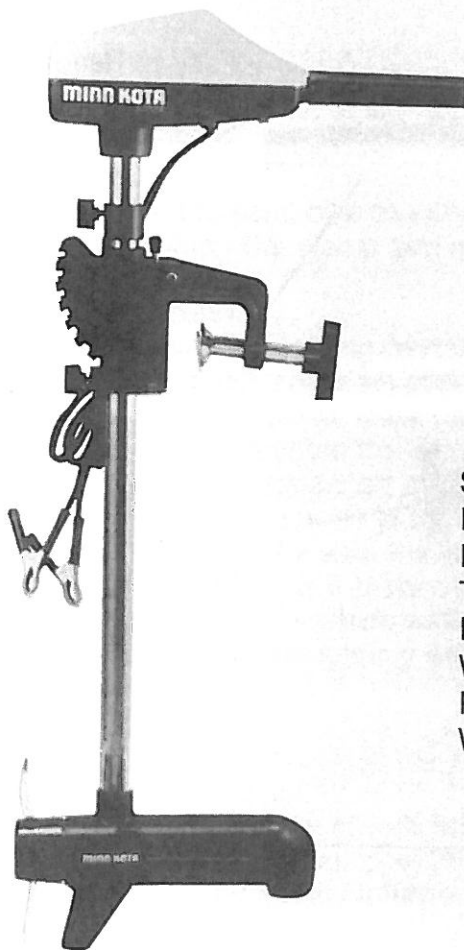
MINN KOTA

OWNERS INSTRUCTION MANUAL

MODEL 35 SONAR

Congratulations

...for selecting the most popular
electric fishing motor in America.



Specifications and Features	p. 2
Installation and Adjustment	p. 3-4
Depth Finder Operation	p. 5-8
Trouble Shooting and Maintenance	p. 9
Replacement Parts	p. 10
Wiring Diagram	p. 10
Parts Diagram	p. 11
Warranty	p. 12

**IMPORTANT: READ MANUAL PAGE 8 PRIOR
TO OPERATING YOUR 35 SONAR.
RETAIN MANUAL FOR FUTURE
REFERENCE.**

SPECIFICATIONS

Model 35 Sonar

Motor	2½" diameter, double sealed, permanent magnet
Voltage	12
Maximum Propeller Speed	2000 RPM
Propeller Diameter	7 inches
Tube Length	29 inches
Tilt Positions	10

FEATURE INFORMATION

Depth Collar Set Screw is Easily Available to Hold Shaft and Vary Depth of Motor.

Durable Bracket Allows Adjustments for 10 Positions Including Stowage.

Steering Tension Set Screw is Easily Available to Set Steering Tension

Color Coded Battery Clamps for Easy Identification

Weedless Prop, Made of Durable Clear G.E. Lexan.

Easy to Read Depth Meter Shows Depth at a Glance.

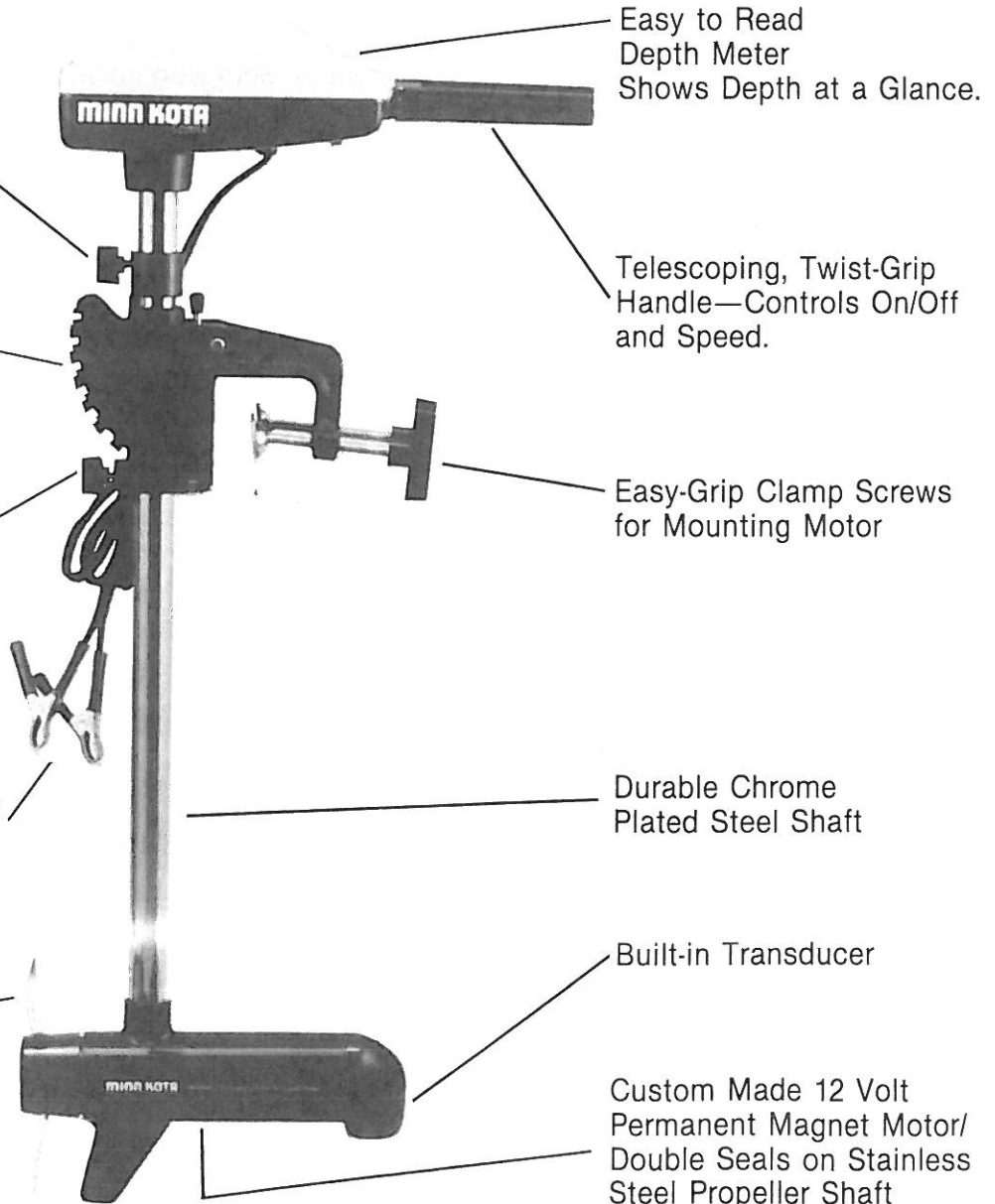
Telescoping, Twist-Grip Handle—Controls On/Off and Speed.

Easy-Grip Clamp Screws for Mounting Motor

Durable Chrome Plated Steel Shaft

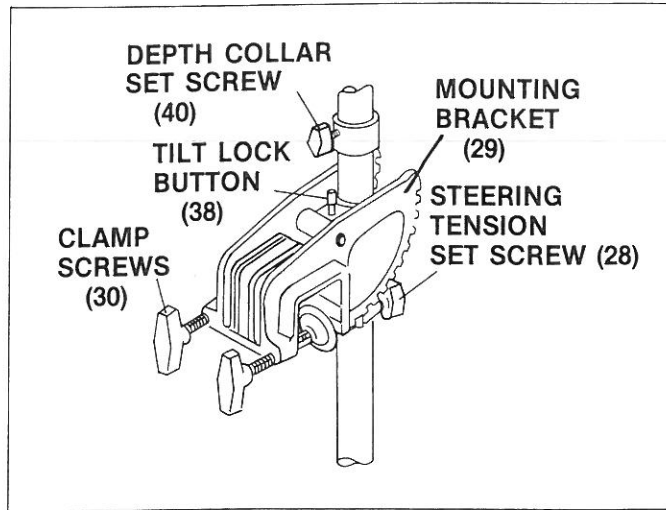
Built-in Transducer

Custom Made 12 Volt Permanent Magnet Motor/ Double Seals on Stainless Steel Propeller Shaft



MOUNTING ON THE BOAT

Numbers in diagrams refer to parts list on page 10.



CAUTION: Never operate your Minn Kota motor when it is out of the water!

Mount your motor on the transom, bow or either side of the boat, then tighten the clamp screws (30) securely.

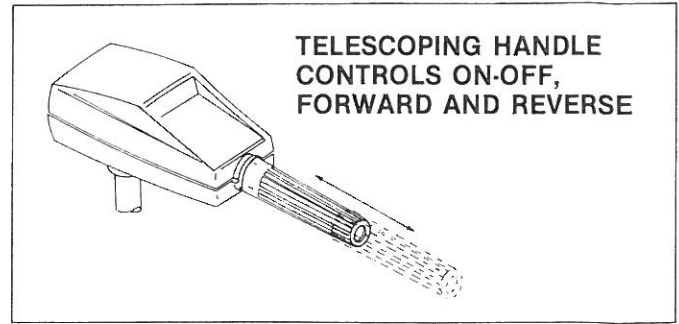
To adjust the depth, loosen the steering tension set screw (28) and turn the depth collar set screw until the tube slides freely. Raise or lower the motor to the desired depth and tighten the depth collar set screw. The steering tension set screw may be adjusted to your preference as you use your motor. **In setting the depth, be sure the top of the motor is submerged at least 6 inches to avoid agitation and churning of the surface water. The propeller should always be completely submerged.**

To adjust the tilt, simply depress and hold the tilt lock button (38), tilt to any of 10 positions on the mounting bracket (29), then release the tilt lock button. You can set your motor in a vertical position, angle it for shallow water, or tilt it completely out of the water when not in use.

Adjust your steering tension using the steering tension set screw (28) to provide enough tension to allow the motor to turn freely, yet remain in any position without being held. It can also be used to lock the motor in a preset condition to leave your hands free for fishing while trolling or positioning.

Select forward or reverse and your speed by turning your steering grip to any of the speed positions indicated on the twist-grip handle.

Adjust your steering handle length. A telescoping handle allows you to easily extend its length for the most comfortable “reach” from your seat. To extend the handle, simply pull it towards you to any of the “click stops.”



BATTERY INFORMATION

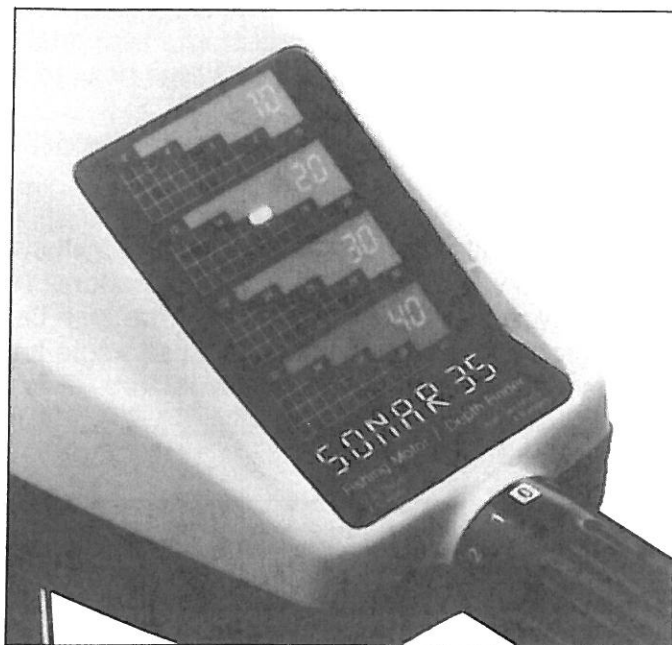
Your motor will operate with any 12 volt battery. For best results use a battery with at least an 80 ampere hour rating. Maintain battery at full charge. Use a variable rate charger to avoid over-charging the battery. If you are using a battery to start a gasoline outboard, we recommend that you use a separate deep cycle battery for your Minn Kota motor.

BATTERY CONNECTION

CAUTION: Before connecting the battery, make sure the twist-grip handle is in the “O” position.

Connect the positive (+) red lead to the positive (+) battery terminal, negative (-) black lead to the negative (-) battery terminal. See wiring diagram on page 10 for additional details.

DEPTH FINDER OPERATION



NOTE:

- This unit is not designed for use with any Minn Kota Maximizer or pulse width modulation units.
- Never operate your depth finder in boat speeds higher than those achieved by your 35 Sonar.
- Operation of your 35 Sonar in high reverse speeds may cause cavitation of the surface water—producing unstable depth readings by your transducer.

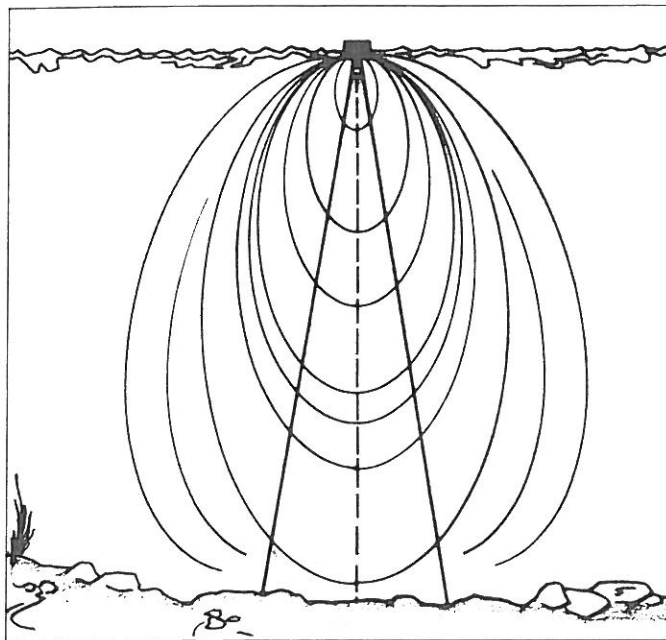
Your new 35 Sonar is designed to read depth accurately up to forty-feet. Once your motor is mounted in position, simply turn the depth finder on with the switch located on the underside of the control box head. **For best results, tilt your motor so that the shaft of the motor is perpendicular to the water surface.**

Function

Your 35 Sonar operates by sending an electrical signal through the transducer located in the front end of your motor assembly. The transducer converts the electrical signal into sound waves that travel through the water. As these sound waves travel towards the lake bottom, the signal bounces off the bottom surface and returns to the transducer, which converts the sound waves back to an electrical signal displayed on your 35 Sonar.

Cone Angle

The sound waves traveling through the water radiate into the water to all sides creating a large balloon-like pattern. Though the signal or sound waves branch out in all directions, there is only one area of maximum sensitivity where the sound waves actually pick up signals that can be displayed on your 35 Sonar. This area of maximum sensitivity produces an imaginary projected angle known as a “cone angle.” The cone angle or area of maximum sensitivity on your 35 Sonar is 18° .

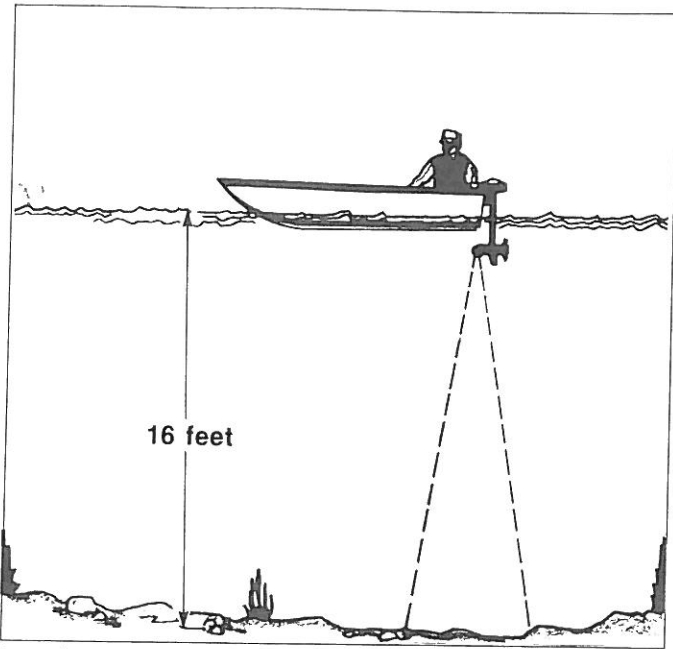


Although the sound waves transmitted by your transducer radiate to all sides—the area of maximum sensitivity (shaded portion) is the actual “cone angle” where the transducer picks up most of the signals displayed on your 35 Sonar.

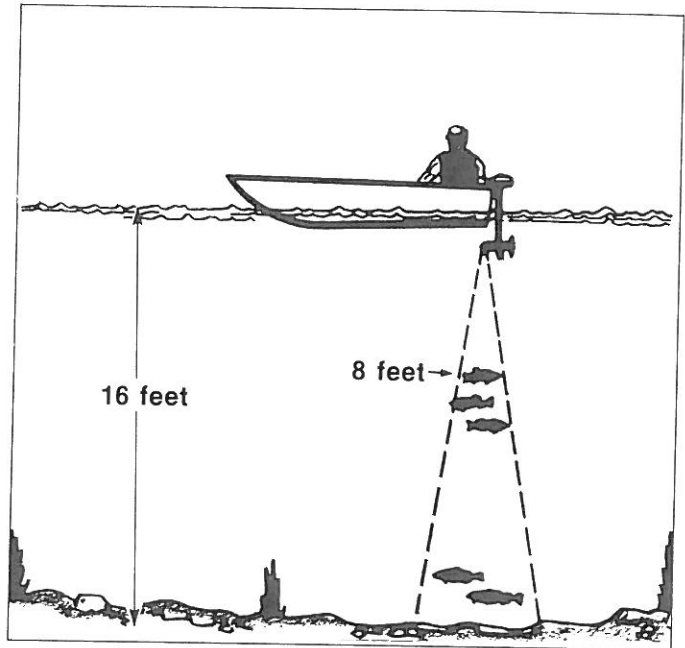
Targeting

Whenever the transmitted sound waves hit anything more dense than water, the sound waves are reflected and received by the transducer. Anything dense enough to reflect the sound waves sent out by the transducer is called a "target." Targets are things such as fish, bait fish, submerged weeds, stumps, debris, etc.

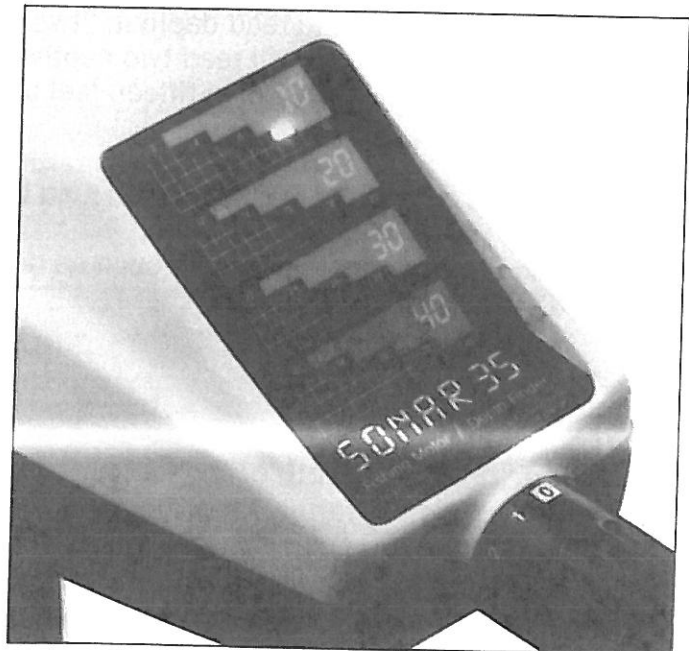
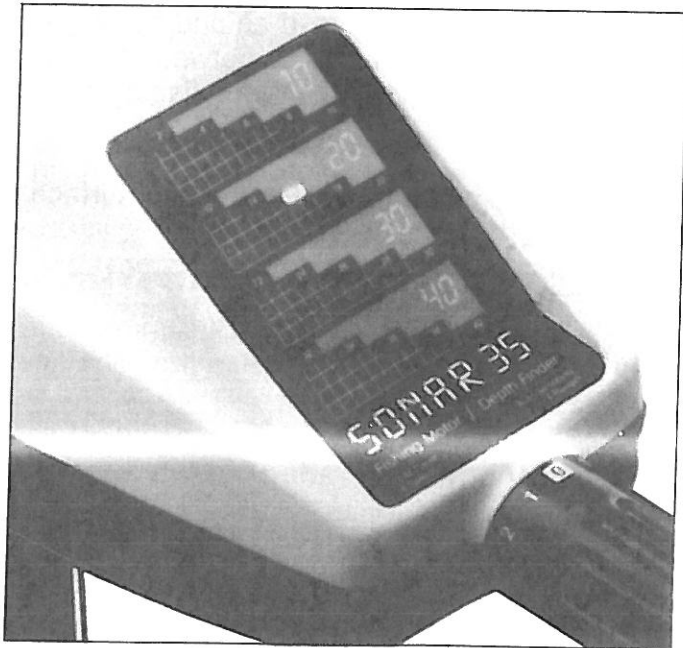
The 35 Sonar is capable of displaying only one signal at a time. If you are in sixteen-feet of water with no targets, the display will jump to the depth of that target. The display will remain at the target depth for as long as the target remains within the cone angle of the transducer. Once the target leaves the cone angle, the display will return to the bottom depth.



In sixteen-feet of water—no targets present—display reads sixteen feet.

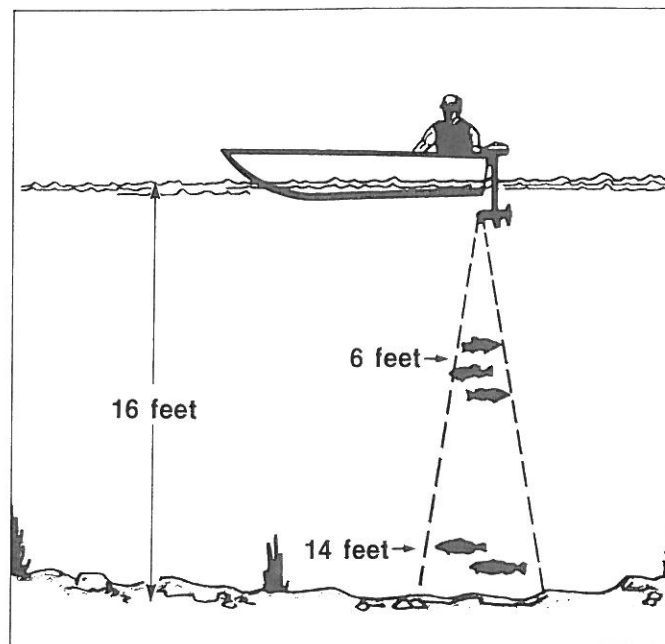


Fish in eight feet of water—display will read eight feet while fish or targets remain in cone angle.



Resolution

Resolution is simply defined as the ability of your depth finder to separate targets. Because your 35 Sonar can display only one target depth at a time, the display will always read the target which is closest to the transducer. If the transducer passes over fish at six-feet and fish at fourteen-feet at the same time, the display will read the fish at six-feet only.



Fish in six-feet of water and fourteen feet, display will read target closest to transducer—reading fish in six feet of water only.

Reading your 35 Sonar

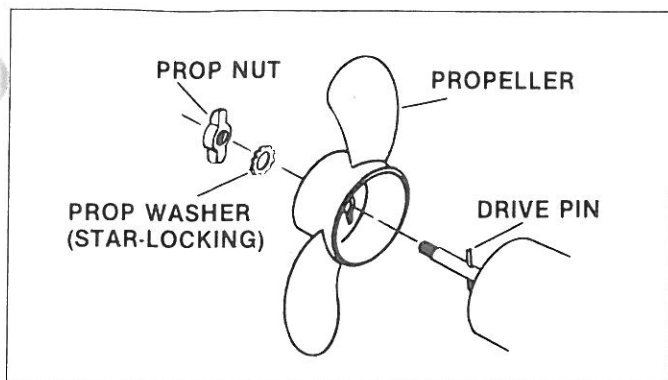
Your 35 Sonar is designed to read depth in “two-foot” (even numbered) increments. If an odd numbered depth is present, the display will read two depths—indicating that the depth present is between the two depths being displayed. If you are in fifteen feet of water, the fourteen-foot and sixteen foot display lights will be on.

- In dense weed conditions the display will read the depth from the top of the weeds to the water surface.
- In conditions where floating targets such as debris exist, the display will jump from the bottom depth to the depth of the debris.

NOTE: When fishing in low light conditions, the 35 Sonar will display **all lights** from “O” depth up to the “primary” depth or target being indicated. This is a normal operating condition permitting easy depth range identification.

NOTE: As with other depth finders, the 35 Sonar will display scattered and erratic readings when used in heavily debris and sedimented waters.

PROPELLER REPLACEMENT



CAUTION: Be sure motor is disconnected from battery.

Hold prop blade and loosen prop nut with pliers. Remove prop nut. Pull straight off. Align new prop with drive pin. Install prop washer (star-locking) and prop nut. Tighten prop nut $\frac{1}{4}$ turn past snug.

NOTE: If you experience excessive vibration while operating your motor in reverse speeds—remove the prop nut and prop washer. Pull out on the propeller until disengaged from the drive pin. Rotate the propeller 180° on the shaft and engage propeller to drive pin. Replace prop washer and prop nut. Tighten prop nut $\frac{1}{4}$ turn past snug.

TROUBLE SHOOTING

- 1. Motor runs in reverse**
 - Reconnect battery clamps to opposite terminals.
- 2. Motor fails to run or lacks power**
 - Check battery connections. Be sure terminals are clean and corrosion free. Use a fine grade of sand paper or emery cloth to clean terminals.
 - Check your battery's water level. Add water if needed.
 - Check propeller for line or weeds.
 - If connections are good and your battery has a full charge, obtain service as instructed.
- 3. Motor loses power after a short period of time**
 - Have your battery checked or charged.
- 4. Motor is hard to steer**
 - Loosen the steering tension set screw at the rear of the bracket.

**FOR ALL OTHER MALFUNCTIONS,
OBTAIN SERVICE AS INSTRUCTED.**

MAINTENANCE

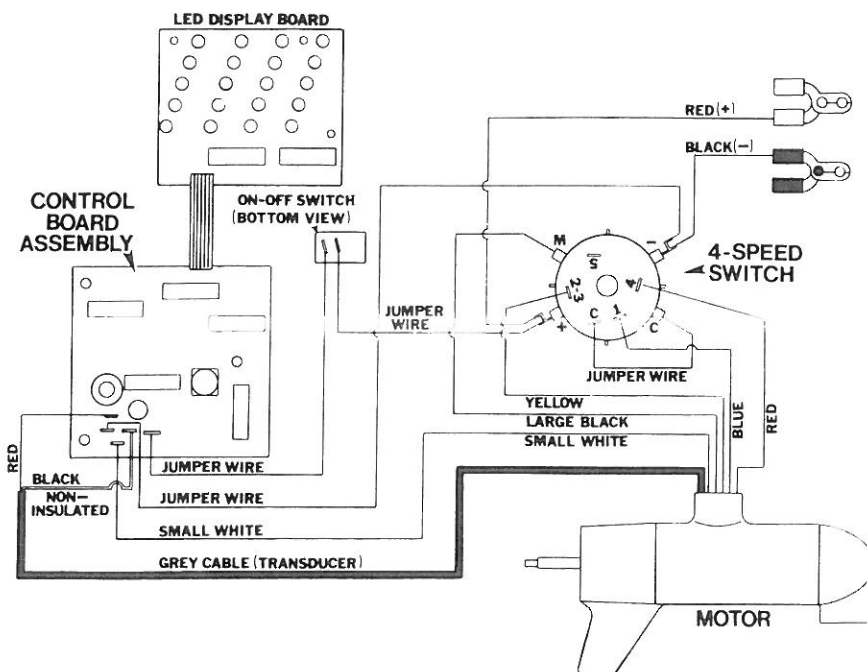
After use—particularly in salt or brackish water—rinse unit with fresh water and wipe down unit with a damp cloth using a silicone spray or light oil. Coat metal parts if prolonged storage will occur.

REPLACEMENT PARTS

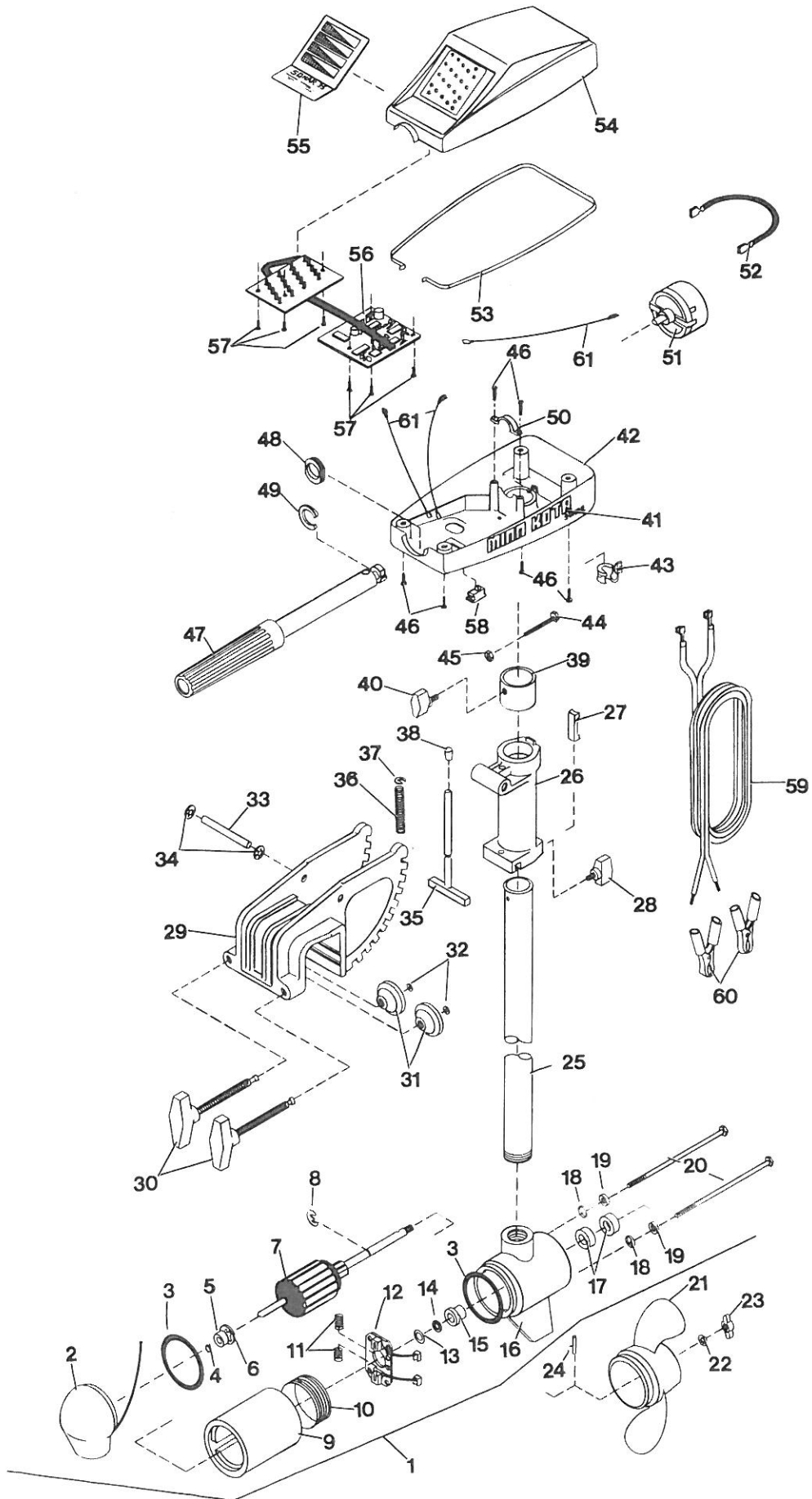
Replacement parts may be ordered from Parts Department, Minn Kota, Johnson Fishing, Inc., 1531 Madison Ave., Mankato, Minnesota 56001, or in Canada, from Parts Department, Minn Kota, Johnson Fishing, Inc., Box 82, Orillia, Ontario, Canada. Be sure to specify the model number and serial number of your motor and the part number(s) as shown on the following list. Minimum charge \$2.00. Payment may be by cash, check, MasterCard or VISA card. Please add \$2.00 for postage and handling on all orders.

Item No.	Part No.	Description	Item No.	Part No.	Description
1	203-7005	Motor Assembly (complete)	31	201-1710	Clamp Screw Washer (2 req'd)
2	403-020	Front End Bell w/401-600 Bearing and Transducer Assembly	32	201-3010	Retaining Ring (2 req'd)
3	401-460	O-Ring (2 req'd)	33	201-0500	Hinge Pin
4	401-050	Thrust Disc	34	201-3100	Speed Nut (2 req'd)
5	401-600	Bearing	35	203-3600	T-Bar
6	405-301	Bearing Retainer	36	201-2700	T-Bar Spring
7	403-204	Armature	37	201-3000	E-Ring
8	401-300	E-Ring	38	201-0100	Tilt Lock Button
9	403-252	Center Section w/Magnets	39	203-1501	Collar
10	403-242	Speed Coils	40	201-1360	Depth Collar Set Screw
11	401-080	Brush Spring (2 req'd)	41	203-5670	Decal-Control Box (2 req'd)
12	401-401	Brush Plate Assembly	42	206-2522	Control Box
13	401-170	Steel Washer	43	201-2910	Strain Relief
14	401-171	Thrust Washer	44	203-3400	Control Box Screw
15	401-000	Shoulder Bushing	45	201-3110	Hex Nut
16	403-031	Rear End Bell	46	201-2100	Cover Screw (6 req'd)
17	401-461	Seal (2 req'd)	47	203-0990	Handle Assembly
18	401-462	Thru Bolt O-Ring (2 req'd)	48	201-0010	Handle Bearing (Outer)
19	401-172	Thru Bolt Washer (2 req'd)	49	201-0000	Handle Bearing (Inner)
20	403-351	Thru Bolt (2 req'd)	50	201-0030	Bearing Cap (Handle)
21	203-1151	Propeller	51	203-4020	Switch-4 Speed
22	201-1720	Propeller Washer	52	202-0310	Connecting Wire
23	203-3110	Propeller Nut	53	206-6900	Gasket-Cover
24	208-2600	Drive Pin (Shear Pin)	54	203-0220	Control Box Cover
25	203-2000	Tube—30"	55	203-5660	Decal-Cover 35 Sonar
26	203-1820	Hinge	56	203-4050	Control Board Assembly
27	203-2800	Tension Block	57	230-3410	Screw (6 req'd)
28	203-1320	Steering Tension Set Screw	58	203-4040	Switch-On/Off
29	203-1910	Mounting Bracket	59	203-0620	Leadwire (Includes Battery Clips and Terminals)
30	201-1370	Clamp Screw (2 req'd)	60	201-0700	Battery Clips (2 req'd)
			61	203-0301	Connecting Wire (3 req'd)

WIRING DIAGRAM



PARTS DIAGRAM



LIMITED WARRANTY

Minn Kota, Inc. warrants to the original purchaser that its electric trolling motors are free from defects in materials or workmanship for a period of one (1) year from the date of purchase, except that this warranty shall not apply to any motors used commercially. The motor must be returned, freight prepaid and with proof of the date of purchase, to Minn Kota, Inc., 1531 Madison Avenue, Mankato, Minnesota 56001 or to any authorized Minn Kota Service Center listed on the attached sheet. Defective parts only must be returned to Minn Kota, Inc. with proof of purchase date for warranty consideration or replacement.

If, after inspection, we find that the motor or part was defective in material or workmanship, we shall, at our option, either repair or replace it without charge. We are not responsible for normal wear and tear or for defects caused by accident, abuse, alteration, misuse or improper care. This warranty will be voided by the use of parts not manufactured or sold by Minn Kota or by modifications made by the consumer.

THERE ARE NO OTHER EXPRESS WARRANTIES BEYOND THE TERMS OF THIS LIMITED WARRANTY. IN NO EVENT SHALL ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY CONTAINED HEREIN. IN NO EVENT SHALL MINN KOTA, INC. BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

QUALITY PRODUCTS DESERVE QUALITY SERVICE

At Johnson Fishing we're just as concerned about providing quality service as we are about providing quality products. That's why our motors are backed by a full one year limited warranty from the date of purchase. If for some reason, your new Minn Kota should require service you can be assured that the problem will be corrected to your satisfaction by one of our many Authorized Warranty repair facilities or the Customer Service Department at Johnson Fishing. After all—"quality products deserve quality service".

MINN KOTA
ELECTRIC FISHING MOTORS

1531 MADISON AVENUE
MANKATO, MINNESOTA 56001
PARTS, SERVICE WARRANTY:
CALL 507-345-4659
OR CALL TOLL FREE:
1-800-227-6433