KEATON

18' RUNABOUT

USING BERKELEY DRIVE

SERVICE MANUAL

Please Note: The information contained within is from the manual printed February 1989
by
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KEATON BOATS, INC
SACRAMENTO, CA 95826

ORIGIN

This model was tooled and tested in 1973. Several boats were built. Different drives were used and evaluated. The Berkeley 12JE-A jet pump seemed to produce the best performance. With the low maintenance and safety, this was our choice to build and develop. This model "18-J" has been in production to this date. Mold improvements and technical changes have been made, but basically it's still the same boat.

Thru the years of manufacturing this runabout has been equipped with several engine options. Oldsmobiles have been used primarily from 1974-1977. Since 1977 about 90% were equipped with 460 Fords. The 350 and 454 Chevrolet engines make up the remaining 10%.

This manual does not cover engine service. They are available from the engine manufacturer.

All 18J's built after 1973 used the Berkeley 12JE drive. A JET-A-VATOR was equipped when requested. However this unit was not recommended as it seemed to affect performance.

Parts lists and information can be obtained from:

Berkeley Jet Drive
2222 5th Street
Berkeley, CA 94710

Editor's note: Berkeley Jet Drive is no longer in business
Jack Keaton of Heritage Manufacturing repairs these drives.
8507 Folsom Blvd
Sacramento, CA
(916) 383-2183

CONSTRUCTION

The hull is totally reinforced plastic (fiberglass) except for the engine stringers, floor and the inner keel. Some deck braces are plywood. Urethane foam is poured between the floor and bottom. The deck uses ½ inch urethane foam sheet for core material. There may also be some 2 inch foam placed under the deck. This is for flotation only, and has no structural value. The deck is attached to the hull by overlapping, riveted with the molding then, fiberglassed. The bare hull weigh is approx. 900 pounds.

MAINTENANCE

The jet drive uses a grease fitting for the front bearing. The is located inside the engine compartment, on the topside of the pump. This should be lubed at 50 hour intervals or once per year. A wheel bearing type grease is used.

The rear bearing consists of 2 bushings which lubricates with either water or oil. Two 1/8 inch pipe plugs are located on the rearward side of the bowl. They can be removed with the pump cover on. Using a lever type oil can with a flexible nozzle, oil can be pumped in one opening until clear oil is discharged form the other opening. Regular motor oil is used.

Oiling the rear bearings are not necessary unless there is a chance of freezing conditions, in which case it would be necessary to also drain the engine block and manifolds.

FUEL TANK

The fuel tank is constructed of heavy laminants of fiberglass, coated inside with a chemical resistant resin. It is permanently attached to the floor and sides of the hull. The line fittings and gauge sender are located directly in front of the driver. The fuel fill hose is 1 ½ inch i.d. The vent hose is 5/8 inch i.d. The outlet hose (to engine) is 3/8 i.d. When any of these hoses are replaced, they **MUST** be type A or type B U.S.C.G. Approved. The fuel sending unit is Stewart-Warner part no. 385-B.

This unit is resined in to prevent leaks. If it is necessary to remove or replace it, a sharp chisel (such as a woodchisel) should be used to cut the resin at the base of the flange. Chisel completely around the flange once or twice til the chisel slips under or the unit begins to lift, at this time clean and vacuum the area to prevent particles dropping in the tank. The unit can now be removed.

When installing a new unit, match the float arm, and install the ground bolt. Seal with DEV-CON or EPOXY putty.

Editor's note: The fiberglass tank used in these boats are prone to breakdown and may begin to leak. It is important to keep an eye open for this. Classic-craft in Sacramento does tank replacements using an aluminum tank that fits in the same space as the original. The original tank was around 30 gals. The replacement is around 27 gals.

Classic-Craft
8509 Folsom Blvd
Sacramento, Ca
(916) 383-2150

CONTROLS

FOOT THROTTLE:
Manufactured by SPECIALTY MARINE CO.
1220 E. Hunter
Santa Ana, Ca, 92705-4132
Editor's note: I tried looking them up but did not find them. They were the original manufacturer and I doubt they are still available. I imagine any foot throttle designed for this type of control would work.

A MORSE "33-C" type 12' cable or equivilant is used.

SHIFT:
A MORSE "ST" lever or equivilent is used.
A MORSE "43-C" type 15' #43C38012-3 cable is used.
<u>NO SUBSTITUTES</u> CAN BE USED.

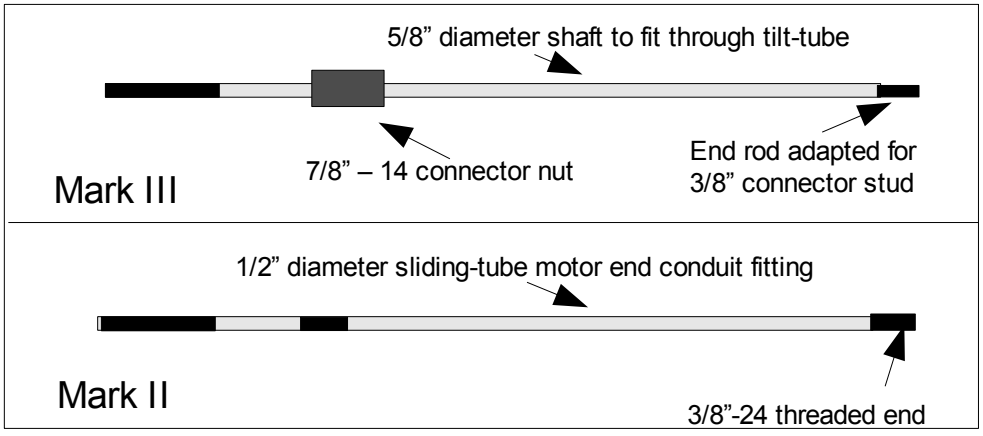
SHIFT CABLE REPLACEMENT:

1. Remove the pump cover by removing the four 3/8" nuts inside the cover and against the transom. Remove 1/4" bolt from strap. Remove cover from left to right.
2. Disconnect clevis and clamp and remove rubber shields from end of cable. Remove bellows. Disconnect the three 1/4" bolts that attach the thru-hull fitting. Slide the thru-hull fitting back away from the transom. Wrap two or three turns of tape (masking or plastic) around the cable in front of the fitting. Slide the fitting forward over the tape. This should force out two nylon bushings and an "O" ring that can be removed from the cable.
3. Disconnect the control end of the cable and any tie straps. The cable can be remove from either end.
4. Install the new cable using the reverse procedure.

STEERING:
STEERMASTER manufactured by ACCO BABCOCK Inc.
Model: MARK II Using a 14' cable
OR MARK III Using a 16' cable

STEERING AND CABLE REPLACEMENT:

TheMARK II was used from 1974 thru 1985. The MARK III has been used since. These two models are identical except for the motor end of the cable and housing. The diagram below shows how to determine the model you want to replace. Either cable may be, or have been replaced prior, regardless of year model. Steering cables often require replacement. (about nine years average)



To replace the cable, remove the pump cover as explained in shift cable replacement. Disconnect cable end fitting and remove billows. If it is a MARK III, unscrew the cable housing nut, then the adapter nut. Twist the adapter to break the seal and remove from the cable. If it is a MARK II, unscrew the adaptor nut and twist the adaptor CCW to loosen. Continue to twist as the adaptor is threaded to the cable housing.

Remove the steering wheel and hub. Loosen the allen screw on the under side of the the steering dash bracket. The unit will then slide forward out of the dash. Pull the steerer and cable out from the front.

Position the steerer on the floor with cable straight as possible. Remove the four 5/16 bolts and tap gently on the back side of the steering wheel shaft. This will split the housing and the cable can be removed. Care should be taken when installing the new cable. The cable, nylon holding shield, and the housing should be in the proper place. The housing should be closed by hand. If there is a slight gap, twist the cable at the steering head until it snaps together. Install the five bolts and tighten softly.

To check the movement, push and pull the cable at the motor end. There will be a resistence of approx. 50 pounds. If the cable will not move or moves too hard, loosen the steering head bolts and test again. The steerer should be in working order before installing.

Replace the steerer in the reverse manner as removed. Before sealing, install and tighten the transom adaptor and cable housing. Check the alignment of the cable to the steering nozzle connecting eye. If it is more than 1 ½" from center, loosen adaptor and align by fastening cable end to nozzle eye. Apply body filler (bondo) as a sealent. When the filler has hardened, the end connection can be removed and the bellows installed.

If the cable aligns when checked, a silicone or marine sealant may be used.

INSTRUMENTS

Several brands of guages have been used, however, the only brand still available at this time is Medallion. Information can be obtained from Specialty Marine.
Editor's note: Medallion Instrumentation Systems, Inc is still in business. Their website is :
http://www.medallionis.com/company/history.cfm

BILGE PUMP

An ATTWOOD automatic #4172-4 pump is used on all models. The base is glued to the bottom at the front of the bilge. For cleaning or replacement the pump can be lifted out by removing the screw on top of the unit.
Editor's note: I doubt this pump is still available – I couldn't find a reference, however there are numerous pumps on the market that should work.

BATTERY

An RV-Marine group 24 is used on all models. A minimum of 85 amps is recommended.

FUEL-WATER SEPARATOR

A large fuel filter-water separator is used as standard equipment on all models built after Sept. 1988. Water and contaminants have become a problem in recent years. The replacement filter is MERCURY #35-60494A12. The filter kit for installation is #35-6049A4. **Note: I think this might be a typo in the manual or perhaps that was the number in 1989. I think it should be 35-60494A4**
Editor's Note: I found that Sierra makes a replacement filter for the 35-60494A12. The part numbers are SIE 187845 for the standard version and SIE 187945 for the High Performance, 10micron version. I found them on this website http://www.boatfix.com/catalog/515.pdf There are many fuel-water separator kits on the market that are compatible with the one installed in boats after Sept. 1988.

TRAILER

The axles used until 1983 were manufactured by HADCO Co. They are now out of business. Trailer specialty shops seem to have most parts. The bearings can be matched at most auto parts stores.

The axles used since 1983 are manufactured by:
CENTURY WHEEL
2301 Tubeway Ave
Commerce, CA 90040-1619

The wearing parts numbers are listed as follows:

Outer bearing	#KL44649	Inner seal	#17255TB
Inner bearing	#L68149	Bearing buddy	#1980

To locate a dealer for other parts contact the manufacturer listed above.
Editor's note: I searched online for Century Wheel in Commerce and came up empty. I did find a Century Wheel & Rim in Montebello, Ca, however I'm not sure if they are the same company. However, in searching online I did find sources for these bearings and I'm sure any specialty trailer or RV shop should have them.

PERFORMANCE

Keep the bottom clean and smooth. Waxing helps to maintain smoothness. Check the pump impeller and wear ring periodically. Wear is slow and will not be noticed over a period of 5 to 6 years. A comparitive check can be done as follows:
Run on smooth water with one adult passenger at 2800-2900 rpm. The speedometer should read 30 miles per hour.