



IMPORTANT Instructions that will affect your warranty – MUST READ

This transmission has been designed and built to give years of trouble free service, but the following items need to be checked for optimum performance. If you have any questions on how to check or correct these items, please give us a call at 954-545-8681.

✓ **Bell Housing / Crank Centerline**

If the block has been align bored/hones, it is likely that the crank centerline has been moved. Use a dial indicator attached to the flywheel to sweep the inside of the bell housing bore while the crank is rotated (easier with the spark plugs out). Maximum allowable offset is .007. We have a fixture available for rent to correct this condition.

✓ **Drive Plate Run Out**

Check for excessive run out on the drive plate. Use a dial indicator mounted on the block or bell housing to sweep the splined hub while the crank is rotated. Maximum run out is .005. You can use a brass drift to move the hub slightly. We have seen some seriously defective drive plates. We can provide competition quality plates for engines up to 1200 ft lbs.

✓ **Shifter Cable, Travel and Installation**

Check to see that the shift arm reaches the dents in forward, neutral and reverse. Even though it is obvious, check to see that forward is forward (arm towards front of boat). We have seen a boat where new controls were installed and the drives were switched, resulting in forward movement while the trans was in reverse! Make sure the shift arm is not hitting the starter. The #6 plug in requires the proper Mercury shift arm. On Konrad plug-in installations make sure the shift arm is not hitting the tailstock. Also make sure the physical mounting of the shift control at the helm does not cause the shift levers to bounce out of gear in rough water. Make sure the shift cable is routed and mounted so the movement at the shift lever is smooth and reaches full forward and reverse. We offer a shift linkage that insures proper operation. See Cyborgtransmissions.com/CyborgProducts/InstallationAccessories/LinkageKit.aspx

✓ **Vent**

Stock vent is adequate for most applications, but the transmission case may be tapped or spring cap removed for remote or extended vent, if desired.

✓ **Cooler**

Minimum cooler size is 2" x 9" bundle length (or equivalent). The Merc bell housing cooler is more than enough for all applications. The fluid outlet is on top of the transmission and the return is on the bottom. If possible, have the fluid flow opposite the water flow through the cooler. **Cooler lines must be a minimum of #8, #10 is better. Do not use any fitting smaller than 3/8 pipe. Do not use a bushing and a 1/4 pipe fitting on the cooler outlet.** Low pressure hose (like Aeroquip or Parker push lock) is ok. **Be sure to flush the cooler thoroughly if you are re using it. We recommend a new cooler to play it safe. DO NOT USE CHECK VALVE IN COOLER LINES! Doing so will VOID your warranty!**

*If you are replacing a broken or failed transmission the **COOLER MUST BE REPLACED**, failure to replace cooler will **VOID** your warranty!*

✓ **Operating Parameters**

Do not shift above 1300 RPM. Shifting into reverse above this RPM may destroy reverse friction plates and shorten life of forward. DO NOT operate at more than 2500 RPM in reverse once in gear as this unit has limited capacity in reverse. **Reverse failure** is not covered by warranty. **On multi-engine vessel do not operate above 40 MPH with any engine not running unless propeller is removed to avoid wind milling.**

✓ **Gauges**

There is a port on the top/rear of the transmission next to the cooler outlet that may be used for a temperature or pressure gauge. Make sure that sender or fitting you use does not obstruct the oil passage in the housing. Most temperature senders will cause this kind of obstruction. An **extension fitting MUST BE USED** to keep the sender from closing off the oil passage. As most transmission problems are caused by low fluid pressure, we feel that a pressure gauge is a better indication of potential problems.

✓ **Drive & Tailstock**

When installing a plug-in style with a 3, 4 or 5 drive, take a look at the guide spring that goes on the aft end of the output shaft. Make sure that the edge of the spring is not damaging the seal. You can grind or belt sand the end of the spring if needed. When installing the drive, make sure that the shaft on the drive is aimed at the female spline in the output shaft of the trans. It is very easy to destroy the rear seal if this shaft is not lined up. If you are installing the tailstock to the transmission yourself, make sure that the seal does not get caught and/or roll over during installation.

✓ **Engine/Drive/Driveline alignment**

Driveline flanges must be parallel. Unequal angles will cause vibration that can shorten transmission life and wear out the metal seals, planetary and housing of the transmission. And even worse can explode a driveshaft. A close-coupled (plug in) installation requires the engine alignment to be checked with the appropriate alignment tool. Many boats are built with transom angles that are different from the 13 degree Mercury standard. The engine must be mounted to accommodate this angle.

Use Type F or FA, *non-synthetic* fluid only, and do not overfill!

Use of any other fluid will void the warranty

NEW (September 2015) fluid level instructions

. There is a "full hot" mark on your dipstick that indicates the proper operating fluid level. The distance between the "full hot" mark and the bottom of the dipstick is NOT an operating range.

1. Start the engine let idle and shift to forward and reverse a few times. Shift to neutral and bring the engine RPM up to at least 3000 in neutral to purge air from the oil cooler.
2. Drop engine RPM back to 1000 or so, pull the dipstick and wipe clean.
3. With the engine still running in neutral at 1000 RPM insert the clean dipstick fully into the transmission, withdraw and read the fluid level.
4. Add or remove fluid as necessary so the fluid is up to the "full hot" mark.
5. For further convenience, allow the transmission to cool and drain down for at least an hour, then make a "cold level" mark with a file on the dipstick.

Please make sure these instructions are given to the end user

Additional information is available at **CyborgTransmissions.com**

Thanks for purchasing a Cyborg Transmission

Marc Berman & the Crew at BAM Marine

No warranty unless this form is completed and returned to us by email (preferred) or fax at 954 366 1446 or email to mbam@BamMarine.com along with pictures of the completed installation

Warranty Registration		
Purchase Date	Transmission Serial Number	
Purchased From	Engine Make	Power
End user name	User Email (if available)	
All items inspected by	Signature	

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