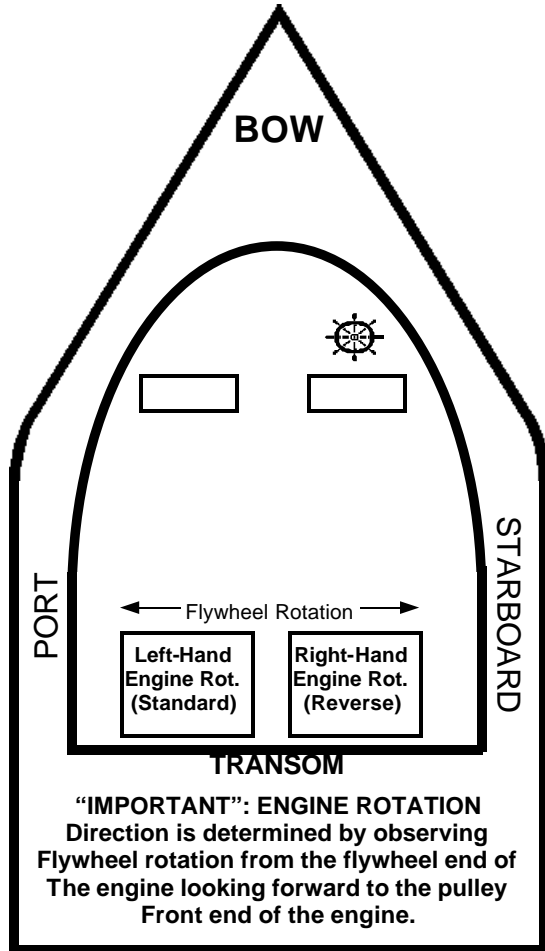


# ELIMINATE THE CONFUSION!

## Starter Application Guide for Inboard & I/O Marine Engines Using GM Blocks...

### BOTTOM MOUNT APPLICATION

#### 12" Flywheel "Standard" Rotation Engines



Older GM blocks using a 12" flywheel with "standard rotation" use API Marine starter #10064 (new) or #ST64 (remanufactured). Early style Delco 10MT starters with straight-bolt pattern use 1 long bolt and 1 short bolt to mount starter to block. These starters weigh approximately 21<sup>lbs</sup> and are used on Mercruiser, OMC, Volvo & other marine engines. These starters are normally found on 4 and 6 cylinder engines, but they can also be found on some 8 cylinder applications.



Late GM blocks using a 12" flywheel with "standard rotation" use API Marine starter #10096 (new) or #ST96 (remanufactured). Late style Delco PMGR starters with straight-bolt pattern use 1 long bolt and 1 short bolt to mount starter to block. These starters weigh approximately 10<sup>lbs</sup> and are used on Mercruiser, OMC, Volvo & other marine engines. These starters are normally found on 4 and 6 cylinder engines, but they can also be found on some 8 cylinder applications.



#### 14.25" Flywheel "Standard" Rotation Engines

Older GM blocks using a 14.25" flywheel with "standard rotation" use API Marine starter #10071 (new) or #ST71 (remanufactured). Early style Delco 10MT starters with staggered-bolt pattern use 2 long bolts to mount starter to block. These starters weigh approximately 21<sup>lbs</sup> and are used on 6 and 8 cylinder engines. They are used on Mercruiser, OMC, Volvo and other marine engines.



# ELIMINATE THE CONFUSION!

## Starter Application Guide for Inboard & I/O Marine Engines Using GM Blocks...

### BOTTOM MOUNT APPLICATION (continued)

#### 14.25" Flywheel "Standard" Rotation Engines

Late GM blocks using a 14.25" flywheel with "standard rotation" use API Marine starter #10095 (new) or #ST95 (remanufactured). Late style Delco PMGR starters with staggered-bolt pattern use 2 long bolts to mount starter to block. These starters weigh approximately 10<sup>lbs</sup> and are used on 6 and 8 cylinder engines. They are used on Mercruiser, OMC, Volvo & other marine engines.



#### 12" Flywheel "Reverse" Rotation Engines

Older GM blocks using a 12" flywheel with "reverse rotation" use API Marine starter #10064LH (new) or #ST64LH (remanufactured). Early style Delco 10MT starters with straight-bolt pattern use 1 long bolt and 1 short bolt to mount starter to block. These starters weigh approximately 21<sup>lbs</sup>.



Most late model boats reverse the prop shaft rotation in the transmission AND NOT in the engine. Because of this, use

API Marine starter #ST96 (remanufactured) or #10096 (new) on late GM blocks using a 12" flywheel with "reverse rotation".



#### 14.25" Flywheel "Reverse" Rotation Engines

Older GM blocks using a 14.25" flywheel with "reverse rotation" use API Marine starter #10071LH (new) or #ST71LH (remanufactured). Early style Delco 10MT starters with staggered-bolt pattern use 2 long bolts to mount starter to block. These starters weigh approximately 21<sup>lbs</sup>.



Most late model boats reverse the prop shaft rotation in the transmission AND NOT in the engine. Because of this, use API Marine starter #ST95 (remanufactured) or #10095 (new) on late GM blocks using a 14.25" flywheel with "reverse rotation".



### TOP MOUNT APPLICATION

Many marine engines mount the starter on top of the engine in back of the bell housing. This mount is commonly found on "Crusader Engines" and many high performance big block GM engines. These starters are often called bullet starters (referring to the pointy shape of the drive end housing). Though the drive end housing is usually made of cast iron, some late model engines may have new 14MT starters with aluminum drive end housings.



# **ELIMINATE THE CONFUSION!**

## **Starter Application Guide for Inboard & I/O Marine Engines Using GM Blocks...**

### **TOP MOUNT APPLICATION (continued)**

GM blocks with "standard rotation" use API Marine starter #10059LH (new) and #ST59LH (remanufactured). GM blocks with "reverse rotation" use API Marine starter #10059 (new) and #ST59 (remanufactured).

#### **API Marine offers three styles of new Top Mount Starters:**

##### **API Marine 10MT Delco Style**

High Torque

Weight: 23<sup>lbs</sup>

(All replacement parts are available.)



##### **Delco Remy 14MT**

High Torque

Weight: 21<sup>lbs</sup>

(No replacement parts are available.)

##### **Nippondenso Gear Reduction Style**

High Torque

Weight: 10<sup>lbs</sup>

(All replacement parts are available.)



### **Tech Tips & Important "Need-to-Know" Information...**



**Check Batteries:** "Always make sure batteries are fully charged and load tested. Defective and/or inadequate batteries are one of the most common causes of problems in marine electrical systems!"



**Check Connections:** "Be sure all connections and terminals are tight and clean. Also, battery cable terminals need to be tight and should have a gap between the top of the terminal and the side of the clamp!"



**Check Wiring:** "Remember to always tag wiring when removing any electrical unit. Also, feel the lines for soft spots. Soft spots usually indicate the wire is corroded and needs to be replaced!"



**Check for High Resistance:** "Be sure to check for voltage drops. Low voltage will ruin your electrical components and shorten the life of a battery!"