MARINER OUTBOARDS

MERCURY OUTBOARDS

service bulletin

No. 96-18

Revised 4/3/97

High Elevation Gear Ratio/Gear Housing Exchange Program – 100-250 HP Models

NOTICE

This is a revision of Outboard Service Bulletin 96-18. Destroy original (1196) Bulletin and insert this revised (497) Bulletin. Changes are underlined.

Outboards operated above 2500 feet may experience a decrease in performance due to less oxygen in the air at a higher elevations. Propeller changes, carburetor jet changes and gear ratio changes or a combination of these changes may be necessary to restore satisfactory performance.

A High Elevation Gear Ratio/Gear Housing Exchange Program is in effect to help offset some of the costs incurred to set up engines for operation at higher elevations. This program applies to **new, unused outboards** and should be considered only for outboards used primarily at higher elevations. Use of outboards, with gears changed to a lower ratio, at elevations below 2500 feet could result in powerhead damage or gear damage from overspeed rpm.

Order the following parts and make the exchange per these instructions.

Gear Exchange

MODELS:

100/115/125 (4 cyl) use 75/90 (3 cyl) 2.3:1 ratio gears.

Order

1	43-44484	Pinion Gear
1	43-12634A2	Forward Gear
1	43-12635	Reverse Gear
1	26-43035A4	Seal Kit
2	37-815820	Caution Decal

135/150/175 SKI with 2:1 ratio, **0G437999 & below**, ratcheting, standard rotation - use 2.3:1 ratio gears.

Order

1	43-16294A5	Gear Set
1	45-16292	Drive Shaft (Long)
1	45-815237	Drive Shaft (X-Long)
2	37-815820	Caution Decal

135/150/175 SKI with 2:1 ratio, **0G438000 & up,** non-ratcheting, standard rotation - use 2.3:1 ratio gears.

Gear set not available at this time, order gear housing complete (pg 2).

150/175/200 with 1.87:1 ratio, **0G437999 & below,** ratcheting, standard rotation - use 135/150 2:1 ratio gears.

Order

1	43-44102A2	Gear Set
1	26-89238A2	Seal Kit
2	37-815820	Caution Decal

150/175/200 with 1.87:1 ratio, **0G438000 & up,** non-ratcheting, standard rotation - use 135/150 2:1 ratio gears.

Order

1	43-828176A2	Gear Set*
1	43-828177A1	Reverse Gear
2	37-815820	Caution Decal

**includes 26-89238A2 - Seal Kit*

225/250 3.0L 1994-1996 - **5 hole** water pickup with 1.64:1 or 1.75:1 ratio, ratcheting, standard rotation - use 1.87:1 ratio gears.

Order

1	43-818543A4	Gear Set
1	26-816575A5	Seal Kit
2	37-815820	Caution Decal

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225/250 3.0 L 1997 and newer - **8 hole** water pickup with 1.75:1 ratio, non-ratcheting, standard rotation - use 1.87:1 ratio gear housing assembly.

Order

Mercury 1623-822442A95
or
Mariner 1623-822442A96

1	45-827754A1	Driveshaft Ext.	20 in.
	45-827755A1	Driveshaft Ext.	25 in.
	45-826353A1	Driveshaft Ext.	30 in.

Pro Max/Super Mag 200/225 2.5 L (Torque Master, Sportmaster, CLE) with 1.87:1 ratio - use 2:1 ratio gears.

Order

1	43-44102A5	Gear Set
1	43-847632A1	Reverse Gear
1	26-89238A3	Seal Kit
2	37-815820	Caution Decal

GEAR RATIO EXCHANGE PROGRAM

1. Order parts.
2. Install gear set in outboard per the Service Manual.
3. Apply Caution Decal on boat dashboard and on outboard driveshaft housing.
4. Complete warranty claim:
   - Enter outboard serial number.
   - List part number of new gears (and driveshaft if required).
   - Enter Flat Rate Code OG-19 for 2 hours of labor credit.
   - Enter return shipping charges.
   - Part/Fail Code - 211-16
5. Carefully pack and return the original unused gears (and driveshaft) with the warranty claim enclosed to:

   MERCURY MARINE
   WARRANTY RECEIVING
   W6250 W. PIONEER ROAD
   FOND DU LAC, WI 54936-1939

Mark box -

"GEAR RATIO EXCHANGE PROGRAM"

COSTS AND CREDITS:

- Dealer orders and pays for new parts and incoming freight.
- Dealer is credited for unused, undamaged gears (and driveshaft) returned, at Dealer Price, and is credited for return freight.
- Dealer received 15% handling allowance for gears (and driveshafts) taken from dealer stock.
- Dealer labor is credited at dealer warranty labor rate.

RETURN TO LOWER ELEVATION

The dealer is responsible for advising the customer of the potential for powerhead or gear damage if an outboard modified for high elevation operations is used at low elevation.

Gear ratio and propeller changes must be reversed to avoid overspeed rpm. Carburetor jet changes must be reversed to avoid a lean fuel condition.

Gear Housing Exchange

MODELS:

100/115/125 (4 cyl) 2.07:1 ratio use 75/90 (3 cyl) 2.3:1 ratio Gear Housing Assembly.

Mercury L - 1667-9011A75
XL - 1667-9011A78
or
Mariner L - 1667-9011A76
XL - 1667-9011A79
and

2	37-815820	Caution Decal

135/150/175 SKI with 2:1 ratio use 2.3:1 Gear Housing Assembly.

Mercury - 1667-9148A78
or
Mariner - 1667-9148A79
and

2	37-815820	Caution Decal

provided by http://www.crowleymarine.com

175/200 with 1.87:1 ratio use 135/150 2:1 ratio Gear Housing Assembly.

Mercury L - 1647-9148A81
XL - 1647-9148A82
CXL - 1647-9148A74

Mariner L - 1647-9148A87
XL - 1647-9148A88
CXL - 1647-9148A75

and

2 37-815820 Caution Decal

Pro-Max/Super Mag 200-225 2.5L with 1:87:1 ratio use 2:1 ratio Gear Housing Assembly.

Torquemaster
Mercury 1686-827214A5
Mariner 1686-827214A6
Polished Alum. 1686-827214A11

Sportmaster
Mercury/Mariner 1687-848450A19

CLE
Mercury 1685-847902A6
Mariner 1685-847902A12

GEAR HOUSING ASSEMBLY EXCHANGE PROGRAM

1. Order gear housing assembly thru Technical Service Pre-Authorized Warranty.
2. Install gear housing assembly per the Service Assembly.
3. Apply Caution Decal on boat dashboard and on outboard driveshaft housing.
4. Sign Pre-Authorized Warranty Claim.
5. Carefully pack and return the unused gear housing assembly with the warranty claim enclosed to:

   MERCURY MARINE
   WARRANTY RECEIVING
   W6250 W. PIONEER ROAD
   FOND DU LAC, WI 54936-1939

Mark box -

"GEAR HOUSING ASSEMBLY
EXCHANGE PROGRAM"

COSTS AND CREDITS:

- Dealer orders and pays for new parts and incoming freight.
- Dealer is credited for unused, undamaged gears (and driveshaft) returned, at Dealer Price, and is credited for return freight.
- Dealer labor is credited at dealer warranty labor rate per Flat Rate Code OG12, 0.7 hours.
- Part/Fail Code - 211-16

RETURN TO LOWER ELEVATION

The dealer is responsible for advising the customer of the potential for powerhead or gear damage if an outboard modified for high elevation operations is used at low elevation.

Gear ratio/gear housing assembly and propeller changes must be reversed to avoid overspeed rpm. Carburetor jet changes must be reversed to avoid a lean fuel condition.

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