MERCURY Racing

service bulletin

☐ WARRANTY INFORMATION ☑ SERVICE INFORMATION

☐ PARTS INFORMATION

Sterndrive No. 2002-01

OEM No. 2002-01

Circulate to: ☑ Sales Manager ☐ Accounting ☑ Service Manager ☑ Technician ☐ Parts Manager

▲ **= Revised May 2002. This bulletin supercedes the previous bulletin 2002-01 February 2002.**

Bravo One XR SportMaster Sterndrives

Models

All Bravo One XR SportMaster Gear Case Models

Situation

The Bravo One SportMaster gear case was designed for specific boating applications that need to be understood and followed to ensure increased boat speed and handling performance.

Design Criteria

The Bravo One SportMaster gear case is designed for propeller surfacing applications on boats capable of reaching speeds in excess of 90 mph. Unsuitable application or installation may cause boat speed loss.

Water Supply Concerns

Extreme care should be taken when raising the drive unit installed height to ensure that the water supply does not become aerated. Use a clear water inlet hose to monitor incoming water. Monitor the engine temperature gauge to ensure that the engine does not overheat.

⚠ CAUTION

Engine must maintain a minimum of 138 kPa (20 psi) of water pressure and not exceed 207 kPa (30 psi) maximum at 4800 to 5200 RPM as measured at the lower block drain position (either side of the block). If this pressure cannot be maintained, the drive must be lowered or alternate water pickup must be installed.

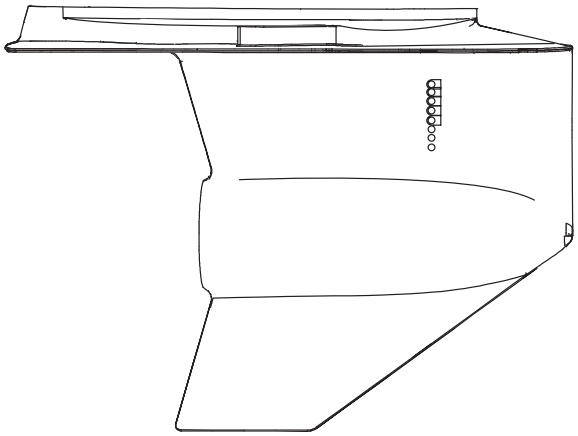
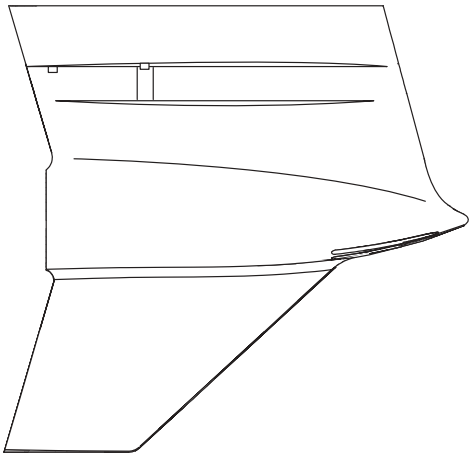
IMPORTANT: Damage to Mercury Racing Sterndrive products caused by too high of an installed height will not be covered by Mercury Racing warranty.

Water Supply Concerns (Cont.)

The Bravo One SportMaster gear case has low water pickups. These affect water pressure in the following ways:

- Water inlets located below the torpedo provide water pressure at higher “X” dimensions than dual water inlet gear cases.
- Due to a small amount of total water inlet area, there is high suction at the water inlets. The results of which are:
  a. Easy clogging with any bottom contact.
  b. Susceptible to clogging if run close to the bottom in shallow water or operated in weedy areas.
- At excessive positive trim angles the inlets are under the torpedo in a low pressure area and may not supply adequate cooling water.

Features

Standard Bravo One Gear Case	Bravo One SportMaster Gear Case
	
Die cast aluminum housing	Computer Numeric Controlled (CNC) machining for housing consistency
Standard 10 in. (254 mm)* strut length	Standard 10 in. (254 mm)* and short 8 in. (203 mm)* strut length versions
Standard 8 3/4 in. (216 mm)* skeg length	2 in. (51 mm) longer skeg enhances directional stability and improves handling
Painted finish	Satin finish
Integrated anode splash plate	Bolted-on anode splash plate
Heavy-duty internal components with billet aluminum bearing carrier and large (1 1/4 in. [32 mm]) prop shaft	Same heavy-duty internal components as the standard Bravo gear case
Standard torpedo profile	A longer torpedo profile with an integrated nose cone

* Measurements are approximate.

"X" Dimensions for Bravo One XR SportMaster Sterndrives

▲STANDARD TRANSOM, SHORT GEAR CASE (MM/INCHES)

Transom Angle	"X" Dimension Measurement - mm (inches)								
16°	476 (18-3/4)	489 (19-1/4)	503 (19-13/16)	516 (20-5/16)	529 (20-13/16)	541 (21-5/16)	556 (21-7/8)	568 (22-3/8)	581 (22-7/8)
15°	471 (18-9/16)	486 (19-1/8)	498 (19-5/8)	511 (20-1/8)	524 (20-5/8)	538 (21-3/16)	551 (21-11/16)	564 (22-3/16)	578 (22-3/4)
14°	468 (18-7/16)	481 (18-15/16)	494 (19-7/16)	508 (20)	521 (20-1/2)	533 (21)	546 (21-1/2)	559 (22)	573 (22-9/16)
13°	464 (18-1/4)	478 (18-13/16)	491 (19-5/16)	503 (19-13/16)	516 (20-5/16)	529 (20-13/16)	543 (21-3/8)	556 (21-7/8)	568 (22-3/8)
12°	460 (18-1/8)	473 (18-5/8)	486 (19-1/8)	500 (19-11/16)	513 (20-3/16)	525 (20-11/16)	538 (21-3/16)	551 (21-11/16)	565 (22-1/4)
11°	457 (18)	470 (18-1/2)	483 (19)	495 (19-1/2)	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)	560 (22-1/16)
10°	454 (17-7/8)	467 (18-3/8)	479 (18-7/8)	492 (19-3/8)	505 (19-7/8)	519 (20-7/16)	532 (20-15/16)	545 (21-7/16)	557 (21-15/16)
	51 (2)	**38 (1.5)**	**25 (1)**	**13 (0.5)**	**0**	**13 (0.5)**	**25 (1)**	**38 (1.5)**	**51 (2)**
	Inches Below the Bottom of the Boat to the Propshaft Centerline					**Inches Above the Bottom of the Boat to the Propshaft Centerline**			

▲STANDARD TRANSOM, LONG GEAR CASE (MM/INCHES)

Transom Angle	"X" Dimension Measurement - mm (inches)								
16°	529 (20-13/16)	541 (21-5/16)	556 (21-7/8)	568 (22-3/8)	581 (22-7/8)	595 (23-7/16)	608 (23-15/16)	621 (24-7/16)	635 (25)
15°	524 (20-5/8)	538 (21-3/16)	551 (21-11/16)	564 (22-3/16)	578 (22-3/4)	591 (23-1/4)	603 (23-3/4)	616 (24-1/4)	630 (24-13/16)
14°	521 (20-1/2)	533 (21)	546 (21-1/2)	559 (22)	573 (22-9/16)	586 (23-1/16)	598 (23-9/16)	611 (24-1/16)	625 (24-5/8)
13°	516 (20-5/16)	529 (20-13/16)	543 (21-3/8)	556 (21-7/8)	568 (22-3/8)	581 (22-7/8)	595 (23-7/16)	608 (23-15/16)	621 (24-7/16)
12°	513 (20-3/16)	525 (20-11/16)	538 (21-3/16)	551 (21-11/16)	565 (22-1/4)	578 (22-3/4)	591 (23-1/4)	603 (23-3/4)	616 (24-1/4)
11°	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)	560 (22-1/16)	573 (22-9/16)	586 (23-1/16)	600 (23-5/8)	613 (24-1/8)
10°	505 (19-7/8)	519 (20-7/16)	532 (20-15/16)	545 (21-7/16)	557 (21-15/16)	570 (22-7/16)	583 (22-15/16)	595 (23-7/16)	608 (23-15/16)
	51 (2)	**38 (1.5)**	**25 (1)**	**13 (0.5)**	**0**	**13 (0.5)**	**25 (1)**	**38 (1.5)**	**51 (2)**
	Inches Below the Bottom of the Boat to the Propshaft Centerline					**Inches Above the Bottom of the Boat to the Propshaft Centerline**			

"X" Dimensions for Bravo One XR SportMaster Sterndrives (Cont.)

▲INTEGRATED TRANSOM SYSTEM (ITS), SHORT GEAR CASE (MM/INCHES)

Transom Angle	"X" Dimension Measurement - mm (inches)								
16°	486 (19-1/8)	498 (19-5/8)	513 (20-3/16)	525 (20-11/16)	538 (21-3/16)	552 (21-3/4)	565 (22-1/4)	578 (22-3/4)	592 (23-5/16)
15°	478 (18-13/16)	492 (19-3/8)	505 (19-7/8)	518 (20-3/8)	530 (20-7/8)	545 (21-7/16)	557 (21-15/16)	570 (22-7/16)	584 (23)
14°	471 (18-9/16)	484 (19-1/16)	497 (19-9/16)	511 (20-1/8)	524 (20-5/8)	537 (21-1/8)	549 (21-5/8)	564 (22-3/16)	576 (22-11/16)
13°	464 (18-1/4)	478 (18-13/16)	491 (19-5/16)	503 (19-13/16)	516 (20-5/16)	529 (20-13/16)	543 (21-3/8)	556 (21-7/8)	568 (22-3/8)
12°	457 (18)	470 (18-1/2)	483 (19)	497 (19-9/16)	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)	562 (22-1/8)
11°	451 (17-3/4)	464 (18-1/4)	476 (18-3/4)	489 (19-1/4)	503 (19-13/16)	516 (20-5/16)	529 (20-13/16)	541 (21-5/16)	554 (21-13/16)
10°	445 (17-1/2)	457 (18)	470 (18-1/2)	483 (19)	495 (19-1/2)	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)
	51 (2)	**38 (1.5)**	**25 (1)**	**13 (0.5)**	**0**	**13 (0.5)**	**25 (1)**	**38 (1.5)**	**51 (2)**
	Inches Below the Bottom of the Boat to the Propshaft Centerline					**Inches Above the Bottom of the Boat to the Propshaft Centerline**			

▲INTEGRATED TRANSOM SYSTEM (ITS), LONG GEAR CASE (MM/INCHES)

Transom Angle	"X" Dimension Measurement - mm (inches)								
16°	538 (21-3/16)	553 (21-3/4)	565 (22-1/4)	578 (22-3/4)	592 (23-5/16)	605 (23-13/16)	618 (24-5/16)	632 (24-7/8)	645 (25-3/8)
15°	530 (20-7/8)	545 (21-7/16)	557 (21-15/16)	570 (22-7/16)	584 (23)	597 (23-1/2)	610 (24)	622 (24-1/2)	637 (25-1/16)
14°	524 (20-5/8)	537 (21-1/8)	549 (21-5/8)	564 (22-3/16)	576 (22-11/16)	589 (23-3/16)	602 (23-11/16)	614 (24-3/16)	629 (24-3/4)
13°	516 (20-5/16)	529 (20-13/16)	543 (21-3/8)	556 (21-7/8)	568 (22-3/8)	581 (22-7/8)	595 (23-7/16)	608 (23-15/16)	621 (24-7/16)
12°	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)	562 (22-1/8)	575 (22-5/8)	587 (23-1/8)	600 (23-5/8)	613 (24-1/8)
11°	503 (19-13/16)	516 (20-5/16)	529 (20-13/16)	541 (21-5/16)	554 (21-13/16)	567 (22-5/16)	579 (22-13/16)	594 (23-3/8)	606 (23-7/8)
10°	495 (19-1/2)	510 (20-1/16)	523 (20-9/16)	535 (21-1/16)	548 (21-9/16)	560 (22-1/16)	573 (22-9/16)	586 (23-1/16)	598 (23-9/16)
	51 (2)	**38 (1.5)**	**25 (1)**	**13 (0.5)**	**0**	**13 (0.5)**	**25 (1)**	**38 (1.5)**	**51 (2)**
	Inches Below the Bottom of the Boat to the Propshaft Centerline					**Inches Above the Bottom of the Boat to the Propshaft Centerline**			

Parts Note

A complete Bravo One XR SportMaster Sterndrive will not be supplied with a hub kit for the propeller. The Heavy-Duty Prop Hub Kit (P/N 840389A5) is supplied with props designed for the large (19-spline) prop shaft. This kit can also be ordered separately.

Bravo spacer kits can be ordered through after-market suppliers.