

MARINE OUTBOARD MOTOR APPLICATION GUIDE

Important Note: Custom fit battery shown meets manufacturer's **minimum** requirements. Upgrade to higher capacity battery, if necessary, to accommodate added electronic equipment such as GPS, depth finders, radio, live wells, etc.

OUTBOARD MODELS	NOTES	MANUFACTURERS RECOMMENDED BATTERY MINIMUM SPECIFICATIONS	FLOODED		ABSORBED GLASS MAT (AGM)	
			BEST FIT	OPTIONS	BEST FIT	OPTIONS
YAMAHA MOTORS						
2-Stroke						
50hp and below	287,288, 296,307	245 CCA (323 MCA) 52 RC @ 25 AMPS	24DC ¹⁴⁰	27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	NA
60hp-200hp Carburetor, 2.6L 150-200EFI	287,288, 296,307	380 CCA (502 MCA) 124 RC @ 25 AMPS	24DC ^{140, 216}	27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	NA
3.1 L 200-250hp EFI	287,288, 296,307	512 CCA (675 MCA) 182 RC @ 25 AMPS	24DC ^{140, 216}	27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	NA
150-300 HPDI 3.1L & 3.3L	296,298, 307	512 CCA (675 MCA) 182 RC @ 25 AMPS	NA	24MS ²¹⁶ , 24MSHO ¹⁴¹ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
4-Stroke						
F8, F8A, F9, T9.9, F15, F20, F25, T8, T9.9, T25	296, 298, 307	245 CCA (323 MCA) 52 RC @ 25 AMPS	24MS	24MS, 24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
F30, F40, F50, T50, F60, F70, T60, F75, T75, F90, F/FL115, F/FL115B1, LF115, VF115	296, 298, 307	380 CCA (502 MCA) 124 RC @ 25 AMPS	24MSHO	24MS ²¹⁶ , 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
F/LF150, 3.3L F/LF200, 3.3L F/LF225, 3.3L F/LF250	296, 298, 307	512 CCA (675 MCA) 124 RC @ 25 AMPS	27DCX ^{140, 141, 216}	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹
2.8L VF150, VF150X, F175, F/LF200, F/LF200F1	296, 298, 307	680 CCA (770 MCA) 160 RC @ 25 AMPS	NA	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹
4.2L F175, F/LF200, VF200/225/250, F/LF225, F/LF250, F/LF250, F/LF250D1, F/LF300, F/LF300D1	296, 298, 307	680 CCA (770 MCA) 160 RC @ 25 AMPS	NA	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹
F/LF350, F350C, VF250X	296, 298, 307	700 CCA (900 MCA) 170 RC @ 25 AMPS	NA	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹

140 - Vented pod. Check electrolyte levels. Keep terminals clean.

141 - Replacement battery may be longer, taller and/or wider than O.E. Replacement of tray/hold-down or battery box may be required.

216 - Requires 2 batteries in parallel to meet OE specifications. Additional space, box or cables may be required.

287 - Yamaha recommends a cranking-type battery that can have distilled water added to its cells when necessary.

288 - Maintenance-Free, sealed, or Gel batteries are not recommended because they may not be compatible with the manufacturer's charging system.

296 - Please refer to your owners manual for appropriate MCA/CCA requirements for your engine.

298 - Yamaha does not recommend mixing battery types (AGM, wet acid, gell cell) in a multi battery system.

307 - A battery cannot be connected to models that do not have a rectifier or rectifier regulator - if you wish to use a battery with the model install an optional rectifier regulator

24DCX replaces 24DCC, 27DCX replaces 27DC, 31DCX replaces 31DC

Important Note: Custom fit battery shown meets manufacturer's **minimum** requirements. Upgrade to higher capacity battery, if necessary, to accommodate added electronic equipment such as GPS, depth finders, radio, live wells, etc.

OUTBOARD MODELS	NOTES	MANUFACTURERS RECOMMENDED BATTERY MINIMUM SPECIFICATIONS	FLOODED		ABSORBED GLASS MAT (AGM)	
			BEST FIT	OPTIONS	BEST FIT	OPTIONS
HONDA MARINE						
BF8D, BF9.9D, BF15D, BF20D, BFP8D, BFP9.9D, BFP15D		270 CCA (350 MCA) 35 AH @ 20 AH RATE	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
BF25A, BF30A, BF25D, BF30D, BF40A, BF40D, BF50A, BF50D, BF60A, BF60D		420 CCA (546 MCA) 65 AH @ 20 AH RATE	24MS ²¹⁶	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
BF75A, BF90A		550 CCA (715 MCA) 70 AH @ 20 AH RATE	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
BF75D, BF90D		582 CCA (756 MCA) 65 AH @ 20 AH RATE	NA	24MSHO, 24MS ²¹⁶ , 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
BF115A, BF115D, BF130A, BF135A, BF150A		622 CCA (809 MCA) 64 AH @ 5 AH RATE 80 AH @ 20 AH RATE	NA	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
BF200A, BF225A, BF250A		800 CCA (1040 MCA) 95 AH @ 5 AH RATE 110 AH @ 20 AH RATE	NA	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM ²¹⁶	27MAGM ^{141, 216} , 31DTMAGM ^{141, 216}
MERCURY MARINE						
2-Stroke						
6hp - 60hp		350 CCA (465 MCA)	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
75hp - 125hp		450 CCA (525 MCA)	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
V6 Models		490 CCA (630 MCA)	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
OptiMax - All Models, Pro XS - All Models		800 CCA (1000 MCA) MINIMUM	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM ²¹⁶	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹
4-Stroke						
8hp - 25hp		350 CCA (465 MCA)	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹

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			BEST FIT	OPTIONS	BEST FIT	OPTIONS
MERCURY MARINE (Continued)						
4-Stroke (Continued)						
30hp - 115hp		ABOVE 32°F 350 CCA (750 MCA)	NA	24MS, 24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
30hp - 115hp		BELOW 32°F 750 CCA	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹
SeaPro 4-Stroke						
40/60/75/90		350 CCA (750 MCA)	NA	24MS, 24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
Verado 4-Stroke						
135 / 150 / 175 / 200, Verado L4, 200 / 225 / 250 / 275 / 300 Verado L6 250Pro, 300Pro	80	800 Min. MCA with a Min. 135 RC25 Rating	NA	NA	NA	SL34MAGM, 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
SUZUKI MARINE OUTBOARD MOTORS						
DF9.9 / 15, DF20 - DF30		330 CCA or over 70 RC mins. or over 40 AH or over @ 20 AH RATE	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
DF40 - DF50		389 CCA or over 115 RC mins. or over 70 AH or over @ 20 AH RATE	24MSHO	24MS ²¹⁶ , 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	NA	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
DF30 - DF70 DF90 / 115 - DF100A, DF140		512 CCA or over 160 RC mins. or over 100 AH or over @ 20 AH RATE	27DCX ^{140, 141, 216}	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹
DF150 - DF175, DF200 / 225, DF250 (Exc DF250AP)		670 CCA or over 190 RC mins. or over 100 AH or over @ 20 AH RATE	NA	24MS ²¹⁶ , 24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	27MAGM ¹⁴¹	SL34MAGM ²¹⁶ , 31DTMAGM ¹⁴¹
DF300, DF250AP		800 CCA or over 180 RC mins. or over 130 AH or over @ 20 AH RATE	NA	24MSHO ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	31DTMAGM ¹⁴¹	SL34MAGM ²¹⁶ , 27MAGM ¹⁴¹

80 - AGM Valve-Regulated Battery Required.

140 - Vented pod. Check electrolyte levels. Keep terminals clean.

141 - Replacement battery may be longer, taller and/or wider than O.E. Replacement of tray/hold-down or battery box may be required.

216 - Requires 2 batteries in parallel to meet OE specifications. Additional space, box or cables may be required.

24DCX replaces 24DCC, 27DCX replaces 27DC, 31DCX replaces 31DC

Important Note: Custom fit battery shown meets manufacturer's **minimum** requirements. Upgrade to higher capacity battery, if necessary, to accommodate added electronic equipment such as GPS, depth finders, radio, live wells, etc.

OUTBOARD MODELS	NOTES	MANUFACTURERS RECOMMENDED BATTERY MINIMUM SPECIFICATIONS	FLOODED		ABSORBED GLASS MAT (AGM)	
			BEST FIT	OPTIONS	BEST FIT	OPTIONS
JOHNSON / EVINRUDE						
2-Stroke						
V4 Carbureted & 9.9-50 Carbureted		ABOVE 32°F 360 CCA (465 MCA), 50 amp-hr minimum	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
V4 Direct-Injection & V6 Carbureted		ABOVE 32°F 500 CCA (620 MCA)	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
V4 Direct-Injection & V6 Carbureted		BELOW 32°F 675 CCA (845 MCA) 60 amp-hr minimum	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	SL34MAGM	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹
V6 Direct-Injection 40hp-90hp Evinrude E-TEC		ABOVE 32°F 675 CCA (845 MCA)	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	SL34MAGM	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹
V6 Direct-Injection 40hp-90hp Evinrude E-TEC		BELOW 32°F 750 CCA (940 MCA) 107 amp-hr in EXTREME applications	24MSHO ²¹⁶	24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM ²¹⁶	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹
4-Stroke						
25hp-30hp		ABOVE 32°F 360 CCA (465 MCA) 50 amp-hr minimum	24MS	24MSHO, 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
40hp-140hp		ABOVE 32°F 500 CCA (620 MCA) 60 amp-hr minimum	24MSHO	24MS ²¹⁶ , 24DC ¹⁴⁰ , 27DCX ^{140, 141} , 24DCX ¹⁴⁰ , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
40hp-140hp		BELOW 32°F 675 CCA (845 MCA) 60 amp-hr minimum	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
All V6 (4-Stroke)		ABOVE 32°F 675 CCA (845 MCA)	24MSHO	24MS ²¹⁶ , 24DC ^{140, 216} , 27DCX ^{140, 141} , 24DCX ^{140, 216} , 31DCX ^{140, 141}	SL34MAGM	27MAGM ¹⁴¹ , 31DTMAGM ¹⁴¹
All V6 (4-Stroke)		BELOW 32°F 750 CCA (940 MCA) 107 amp-hr in EXTREME applications	24MSHO ²¹⁶	24DC ^{140, 216} , 27DCX ^{140, 141, 216} , 24DCX ^{140, 216} , 31DCX ^{140, 141, 216}	SL34MAGM ²¹⁶	27MAGM ^{141, 216} , 31DTMAGM ¹⁴¹

24DCX replaces 24DCC, 27DCX replaces 27DC, 31DCX replaces 31DC