



STERN DRIVES/INBOARD ENGINES

# service bulletin

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## TUNE-UP SPECIFICATION CHART FOR MERCUISE INBOARD ENGINES (MIE) and STERN DRIVE ENGINES (MCM) MODELS

CIRCULATE TO:  
SERVICE MANAGER  
PARTS MANAGER  
MECHANICS



### INBOARD (MIE) MODELS TUNE-UP SPECIFICATION CHART

MIE Model	Serial No.	Cu. In. Displacement	Spark Plugs			Plug Gap	Point Gap	Point Dwell	Timing	Fuel Pressure	Oil Pressure at 2000 RPM	Idle RPM (In Gear)	WOT RPM
			AC	Champion	Autolite								
470	All	224	AC-R42TS	RBL-9Y	ARF22	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (21-42kg/cm <sup>2</sup> )	650-700	3800-4200
198	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	0.16-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	650-700	3800-4200
215	All	302	AC-C83T	F-10	BTF3	.030" (.76mm)	.017" (.43mm)	26°-31°	NOTE 1	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (28-49kg/cm <sup>2</sup> )	550-600	3800-4200
225	3385720 and Below	327	AC-V40K	J-19V	AK0	N.A.	N.A.	N.A.	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	550-600	3800-4200
225	3385721 and Above	302	AC-C83T	F-10	BTF3	.030" (.76mm)	0.16-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (28-49kg/cm <sup>2</sup> )	550-600	3800-4200
228	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	0.16-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	650-700	4000-4400
230	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	650-700	4000-4400
233	All	351	NOTE 2			.030" (.76mm)	0.16-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (28-49kg/cm <sup>2</sup> )	NOTE 3	3800-4200
250	All	327	AC-V40K	J-19V	AK0	N.A.	N.A.	N.A.	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	550-600	3800-4200
255	4175499 and Below	351	AC-C83T	F-10	BTF3	.030" (.76mm)	0.16-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (28-49kg/cm <sup>2</sup> )	550-600	3800-4200
255	4175500 and Above	350	AC-MR43TS	RBL-11Y	ARF32	.035" (.89mm)	0.16-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	650-700	3800-4200
260	All	350	AC-MR43TS	RBL-11Y	ARF32	.035" (.89mm)	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	650-700	3800-4200
270	All	350	AC-V40K NOTE 4	J-19V NOTE 4	AK0 NOTE 4	N.A.	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (21-39kg/cm <sup>2</sup> )	550-600	3800-4200
325	2752441 and Below	427	AC-V40NK	N-19V	AGK0	N.A.	N.A.	N.A.	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
325	3042731 and Above	427	AC-MR41T	BL-3	ARF2	.035" (.89mm)	N.A.	N.A.	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
330	4890179 and Below	454	AC-MR41T	BL-3	ARF2	.035" (.89mm)	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	650-700	3800-4200
330	4890180 and Above	454	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	0.16-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	650-700	3800-4200
340	All	454	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	650-700	3800-4200
350	All	454	AC-MR41T	BL-3	ARF2	.035" (.89mm)	N.A.	N.A.	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
390	All	482	AC-WR41N	N.A.	N.A.	.035" (.89mm)	N.A.	N.A.	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
Jet 400	All	454	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	0.16-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	850-900	4800-5200

\*Oil capacities listed are approximate values and will vary with installation angle. Final oil levels should be determined by the "Full" mark on the dipstick.

N.A. = Not Applicable

NOTES: 1. Engines with distributor No. C9JF-1212, A or B are timed at 12° BTDC, with distributor No. D1JF-12127-J or K-A at 10° BTDC.

2. 3/8" hex - 14mm plug; use AC-MR43TS, Champion RBL-11Y or Autolite ARF32.

3. Serial No. 41,3767 and below: 550-600 RPM; Serial No. 4173768 and above: 650-700 RPM.

4. Engines that are equipped with service replacement heads with tapered spark plug seats, require spark plug AC-MR41T, Champion RBL-8 or Autolite ARF2.

## STERN DRIVE (MCM) MODELS TUNE-UP SPECIFICATION CHART

MCM Model	Serial No.	Cu. In. Displacement	Spark Plugs			Plug Gap	Point Gap	Point Dwell	Timing	Fuel Pressure	Oil Pressure at 2000 RPM	Idle RPM (in Gear)	WOT RPM
			AC	Champion	Autolite								
60	All	67.58	AC-44F	L-85	AE3	.025" (.64mm)	.016" (.41mm)	56°-60°	TDC	1.75 - 3.5 psi (12-25kg/cm <sup>2</sup> )	50-60 psi (3.5-4.2kg/cm <sup>2</sup> )	650	4500-4800
80	All	89.70	AC-44XL	N-9Y	AG3	.025" (.64mm)	.019" (.48mm)	49°-55°	2° ATDC	1.75 - 3.5 psi (12-25kg/cm <sup>2</sup> )	Min 45 psi @ 4000 (Min 3.2kg/cm <sup>2</sup> )	650	4500-4800
90	All	95.5	AC-R42XL	RN-9Y	AG1X	.032" (.81mm)	.016-.019" (.41-.48mm)	53°-57°	2° BTDC	1.75 - 3.5 psi (12-25kg/cm <sup>2</sup> )	Min 45 psi @ 4000 (Min 3.2kg/cm <sup>2</sup> )	650	4500-4800
110	All	153	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	500-600	3900-4300
120	3825578 and Below	153	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.022" (.56mm)	28°-34°	6° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	500-600	3900-4300
120	3825579 and Above	153	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	650-700	3900-4300
140 (4-Cyl.)	3826282 and Below	181	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	500-600	4200-4600
140 (4-Cyl.)	3826283 and Above	181	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	.022" (.56mm)	28°-34°	6° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	650-700	4200-4600
140 (6-Cyl.)	All	194	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.016-.018" (.41-.48mm)	28°-34°	10° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	35 psi (2.5kg/cm <sup>2</sup> )	500-600	3700-4100
150	All	230	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.016-.018" (.41-.48mm)	28°-34°	6° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	35 psi (2.5kg/cm <sup>2</sup> )	500-600	3900-4300
160	All	250	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.016" (.41mm)	28°-34°	6° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	500-600	3900-4300
165	2771483 and Below	250	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.016-.018" (.41-.48mm)	28°-34°	6° BTDC	3.5-4.5 psi (25-32kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	500-600	3900-4300
165	2771484 and Above	250	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-34°	6° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	850-700	3900-4300
470	All	224	AC-R42TS	RBL-9Y	ARF22	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	650-700	3800-4200
485	All	224	AC-R42TS	RBL-9Y	ARF22	.035" (.89mm)	.022" (.56mm)	28°-34°	8° BTDC	3-6 psi (21-42kg/cm <sup>2</sup> )	30-60 psi (2.1-4.2kg/cm <sup>2</sup> )	650-700	4400-4800
885	4169596 and Below	302	AC-C83T	F10	BTF3	.030" (.76mm)	.017" (.43mm)	26°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	550-600	3800-4200
888	4169597 and Above	302	NOTE 2			.030" (.76mm)	.016-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	650-700	3800-4200
190	All	283	AC-CR43K	RJ-6	AR3	.035" (.89mm)	.016" (.41mm)	28°-32°	NOTE 3	5.25 - 6.5 psi (37-46kg/cm <sup>2</sup> )	35 psi (2.5kg/cm <sup>2</sup> )	550-600	3700-4100
898	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	3800-4200
200	All	292	AC-CR44N NOTE 1	RN-6	AGR3	.035" (.89mm)	.016" (.41mm)	28°-34°	8° BTDC	3-5 psi (21-35kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	500-600	3900-4300
215	All	302	AC-C83T	F-10	BTF3	.030" (.76mm)	.017" (.43mm)	26°-31°	NOTE 4	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	550-600	3800-4200
225	2278646 and Below	327	AC-C42-1	J-4	AT2	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	12° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	550-600	3800-4200
225	2278647 thru 3385720	327	AC-CR43K	RJ-6	AR3	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	NOTE 3	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	550-600	3800-4200
225	3385721 and Above	302	AC-C83T	F-10	BTF3	.030" (.76mm)	.016-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	550-600	3800-4200
228	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	4200-4800
228-TR	All	305	AC-MR44T	RBL-8	ARF4	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	3800-4200
233	All	351	NOTE 2			.030" (.76mm)	.016-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	NOTE 5	3800-4200
250	4707999 and Below	327	AC-V40K	J-19V	AK0	N A	N A	N A	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	550-600	3800-4200
250	4708000 and Above	350	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	4200-4600
255	4175499 and Below	351	AC-C83T	F-10	BTF3	.030" (.76mm)	.016-.019" (.41-.48mm)	28°-31°	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	40-70 psi (2.8-4.9kg/cm <sup>2</sup> )	550-600	3800-4200
255	4175500 and Above	350	AC-MR43TS	RBL-11Y	ARF32	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	3800-4200
260	All	350	AC-MR43T	RBL-8	ARF3	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	8° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	650-700	4200-4600
270	All	350	AC-V40K NOTE 6	J-19V NOTE 6	AK0 NOTE 6	N A	N A	N A	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	550-600	3800-4200
280	All	350	AC-MR43TS	RBL-11Y	ARF32	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	6° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-55 psi (2.1-3.9kg/cm <sup>2</sup> )	850-900	4600-5000
310	All	408	AC-43N	N-4	AG2	.035" (.89mm)	.016-.019" (.41-.48mm)	28°-31°	12° BTDC	5.25 - 6.5 psi (37-46kg/cm <sup>2</sup> )	35 psi (2.5kg/cm <sup>2</sup> )	550-600	4500

MCM Model	Serial No.	Cu. In. Displacement	Spark Plugs			Plug Gap	Point Gap	Point Dwell	Timing	Fuel Pressure	Oil Pressure at 2000 RPM	Idle RPM (in Gear)	WOT RPM
			AC	Champion	Autolite								
325	2761141 and Below	427	AC-V40NK	N-19V	AGK0	N A	N A	N A	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
325	3043030 and Above	427	AC-MR41T	BL-3	ARF2	035" (89mm)	N A	N A	10° BTDC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200
330 TR and TRS	All	454	AC-MR43T	RBL-8	ARF3	035" (89mm)	016-019" (41-48mm)	28°-31°	8° BTOC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	650-700	4200-4600
370, 400	All	454	AC-MR43T	RBL-8	ARF3	035" (89mm)	016-019" (41-48mm)	28°-31°	10° BTOC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	800-850	4800-5200
390	All	482	AC-WR41N	N A	N A	035" (89mm)	N A	N A	10° BTOC	3-7 psi (21-49kg/cm <sup>2</sup> )	30-70 psi (21-49kg/cm <sup>2</sup> )	550-600	3800-4200

\*Oil capacities listed are approximate values and will vary with installation angle. Final oil levels should be determined by the "Full" mark on the dipstick.

N.A. = Not Applicable

NOTES: 1. For heavy-duty, high-speed applications, use AC-CR43N Champion RN-5.  
2. 3/8" hex - 14mm plug; use AC-MR43TS, Champion RBL-11Y or Autolite ARF32, except on Model 888 with Serial Nos. 4615130 thru 4616217 and 4616267 and above. On these engines, use AC-R42TS, Champion RBL-9Y or Autolite ARF-22.

13/16" hex - 18mm plug; use AC-CR3T, Champion RF-10 or F-10, or Autolite BTF3

- Engines with distributors Nos. 1111076 and 1111249 are timed at 8° BTDC, all others at 12° BTDC.
- Engines with distributor No. C9FJ-12127-A or B are timed at 12° BTDC, with distributor No. D11F-12127-JA or KA at 10° BTDC.
- Serial No. 4173767 and below: 550-600 RPM; Serial No. 4173768 and above: 650-700 RPM.
- Engines that are equipped with service replacement heads with tapered spark plug seats, require spark plug AC-MR41T, Champion BL3 or Autolite ARF2.