mercruiser
STERN DRIVES & INBOARDS

service bulletin

TO: SERVICE MANAGER ☐ TECHNICIANS ☐
PARTS MANAGER ☐

No. 95-11

Ignition Advance Curves and Point Setting

Models

Mercury Marine 4 Cylinder and GM 4, 6, V6 and V8 Engines.

Advance Curves and Point Setting

This bulletin takes the place of service bulletin 91-12. Newer advance curves have been added and point setting (if used) have been added.

MCM 120, 140, 2.5L, 3.0L (S/N 0C856558 and Below) With Prestolite Distributor

Distributor Part Number: 19514 1 (This is the replacement distributor for the Delco which is NLA).
Distributor Advance: 28°
Initial Timing: 8° BDTC
Total Advance: 36° @ 2100 RPM
Point Gap and Dwell: .016 in. (0.4 mm), 39° - 45°

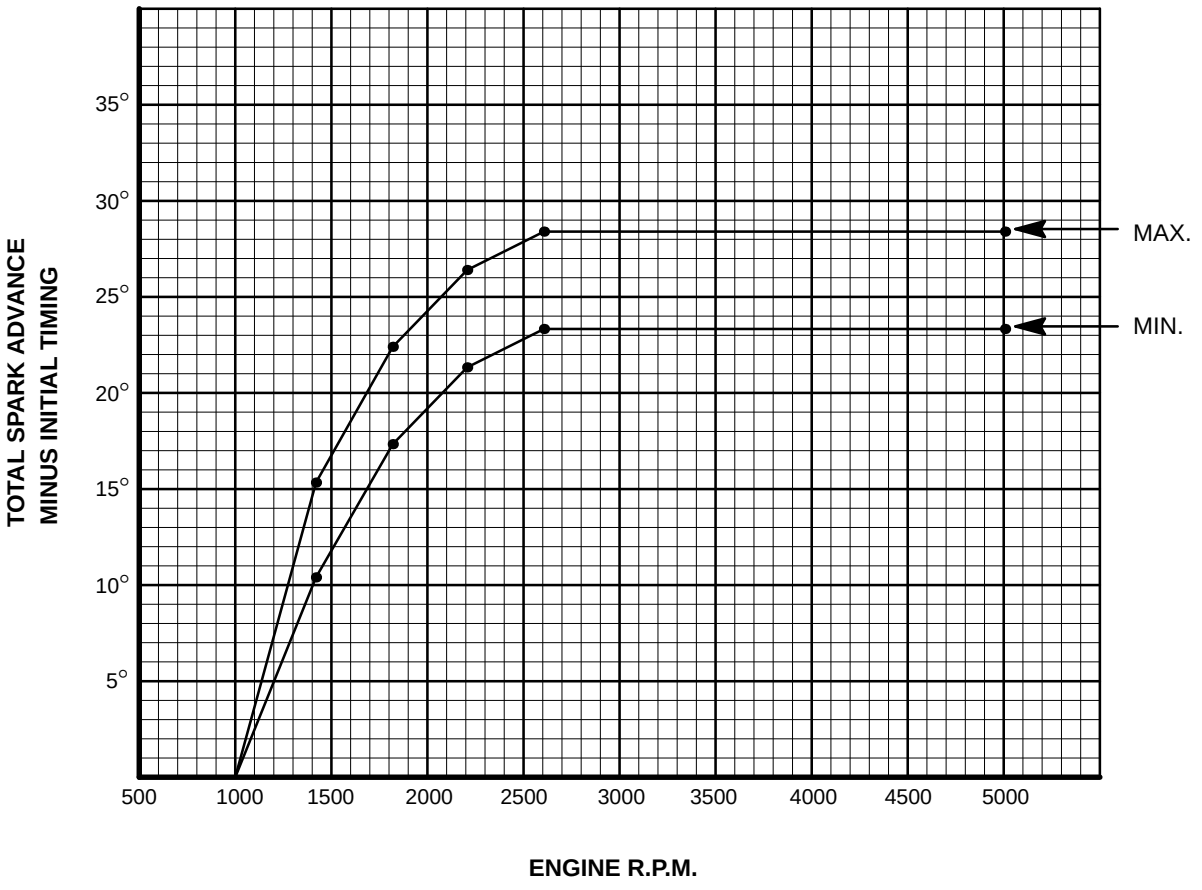


70808-16

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MCM 3.0L (S/N 0C856558 and Below) With DDIS

Module Part Number: 18811T
Module Advance: 26°
Initial Timing: 8° BTDC
Total Advance: 34° @ 2600 RPM

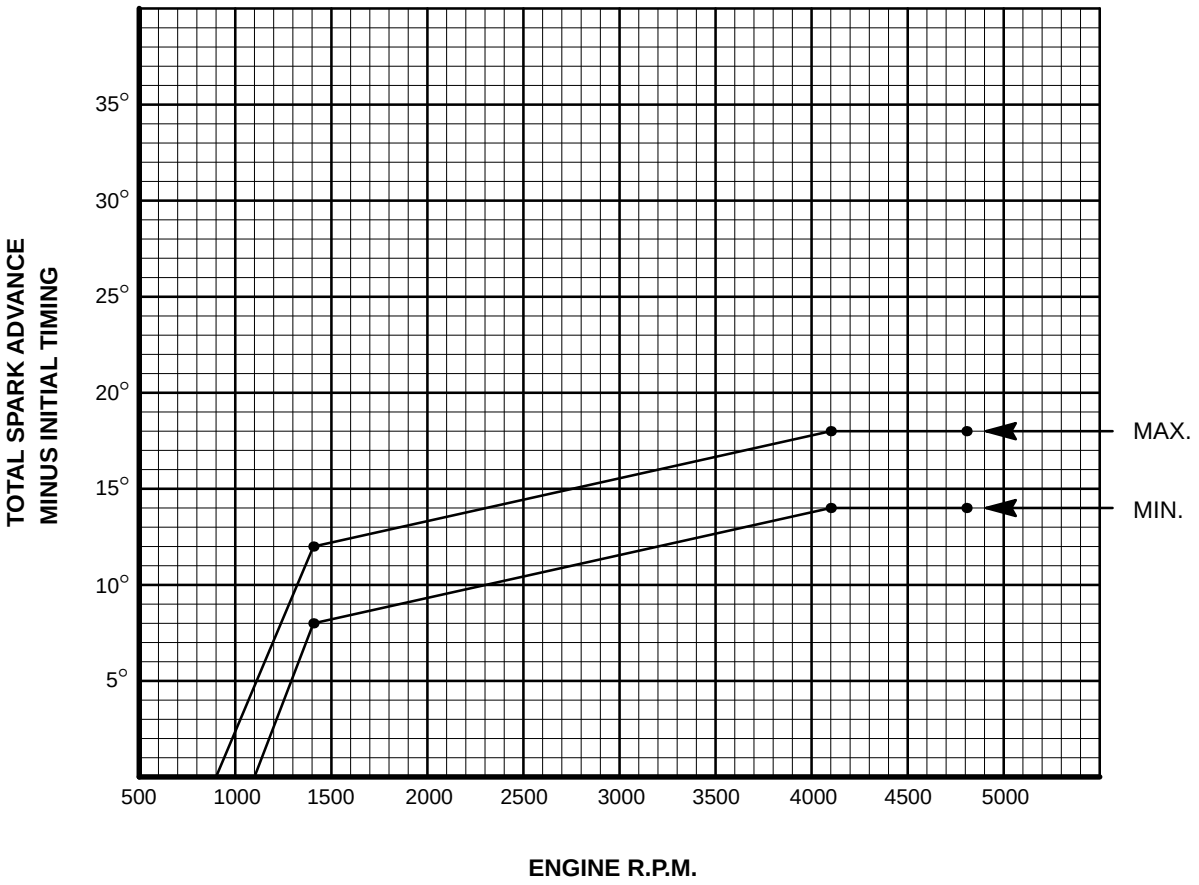


70808-2

provided by http://www.crowleymarine.com

MCM 3.0L (S/N 0C856559 and Above) With Prestolite Distributor

Distributor Part Number: 816129A 1
Distributor Advance: 16°
Initial Timing: 8° BTDC
Total Advance: 24° @ 4100 RPM
Point Gap and Dwell: .016 in. (0.4 mm), 39° - 45°

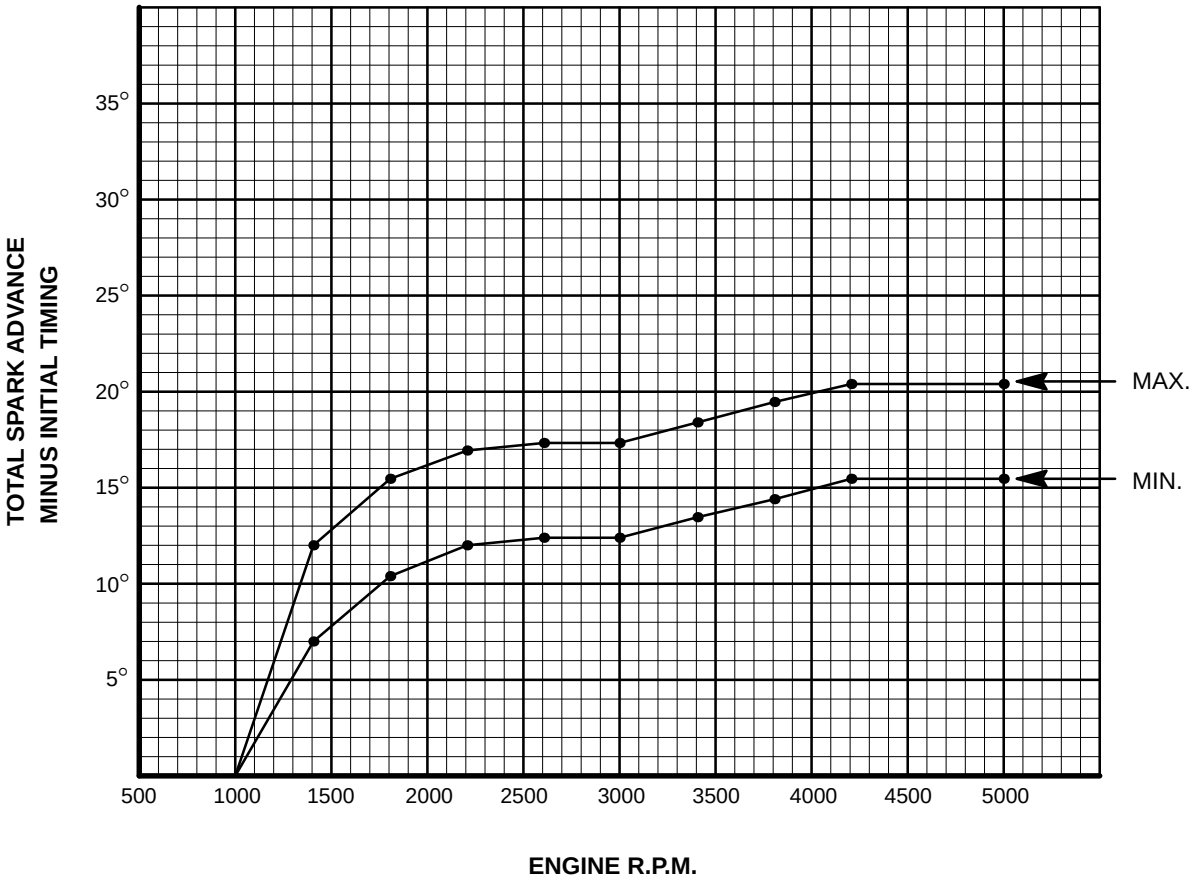


70808-3

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MCM 3.0L (S/N 0C856559 and Above) With DDIS

Module Part Number: 18811T 1
Module Advance: 18°
Initial Timing: 8° BTDC
Total Advance: 26° @ 4200 RPM

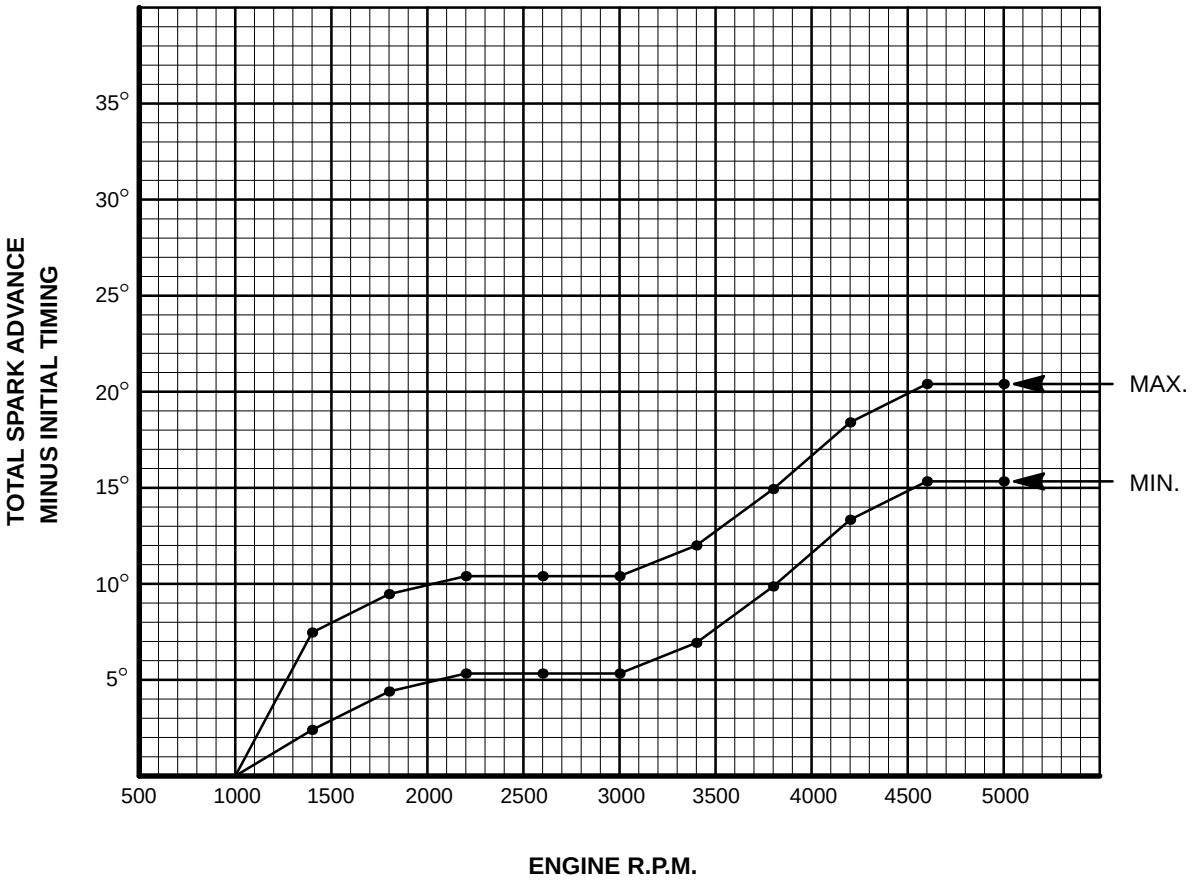


70808-4

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MCM 3.0LX (S/N 0C856559 and Above) With DDIS

Module Part Number: 18811T 2
Module Advance: 18°
Initial Timing: 8° BTDC
Total Advance: 26° @ 4600 RPM



70808-5

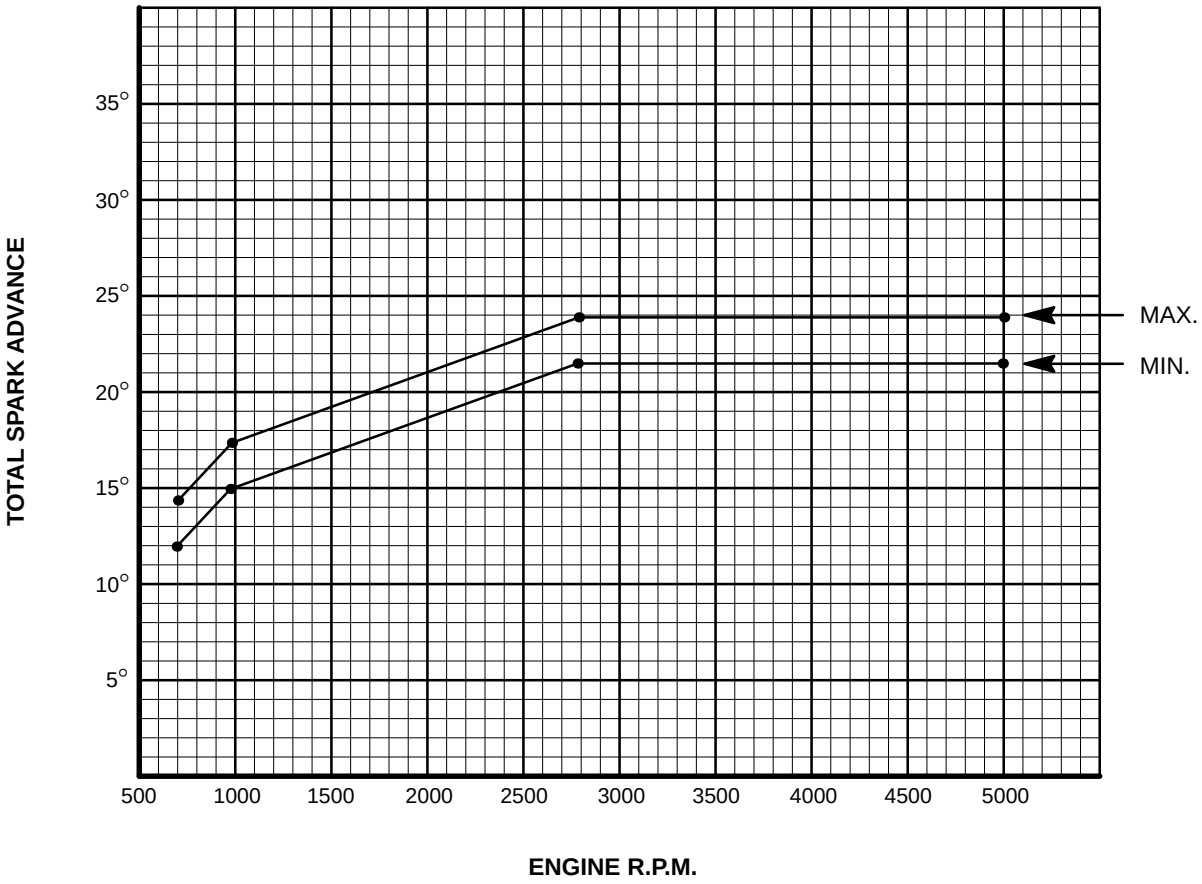
provided by http://www.crowleymarine.com

MCM 3.0L, 3.0LX (S/N 0D504542 and Above) With EST

Module Part Number: 811637
Module Advance: See Notice
Initial Timing: 1° BTDC
Total Advance: 23° @ 2800 RPM

NOTICE

Advance curve includes initial timing. DO NOT add initial timing degrees to total advance degrees.

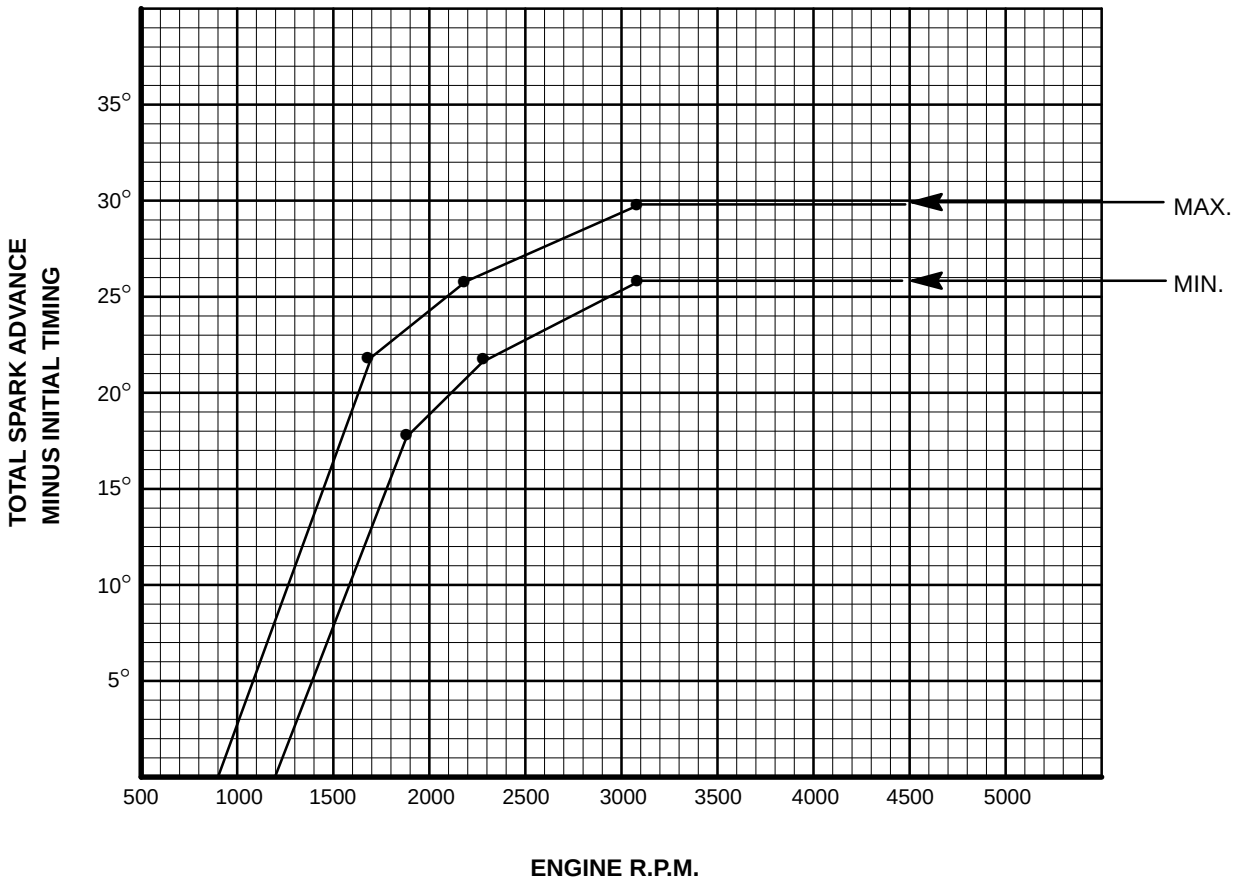


70808-15

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MCM 470, 485, 488, 165, 170, 180, 190, 3.7L, 3.7LX With Prestolite Distributor

Distributor Part Number: 19514A 2 (This is the replacement distributor for the Delco which is NLA).
Distributor Advance: 28°
Initial Timing: 4° BDTC
Total Advance: 32° @ 3100 RPM
Point Gap and Dwell: .016 in. (0.4 mm), 39° - 45°

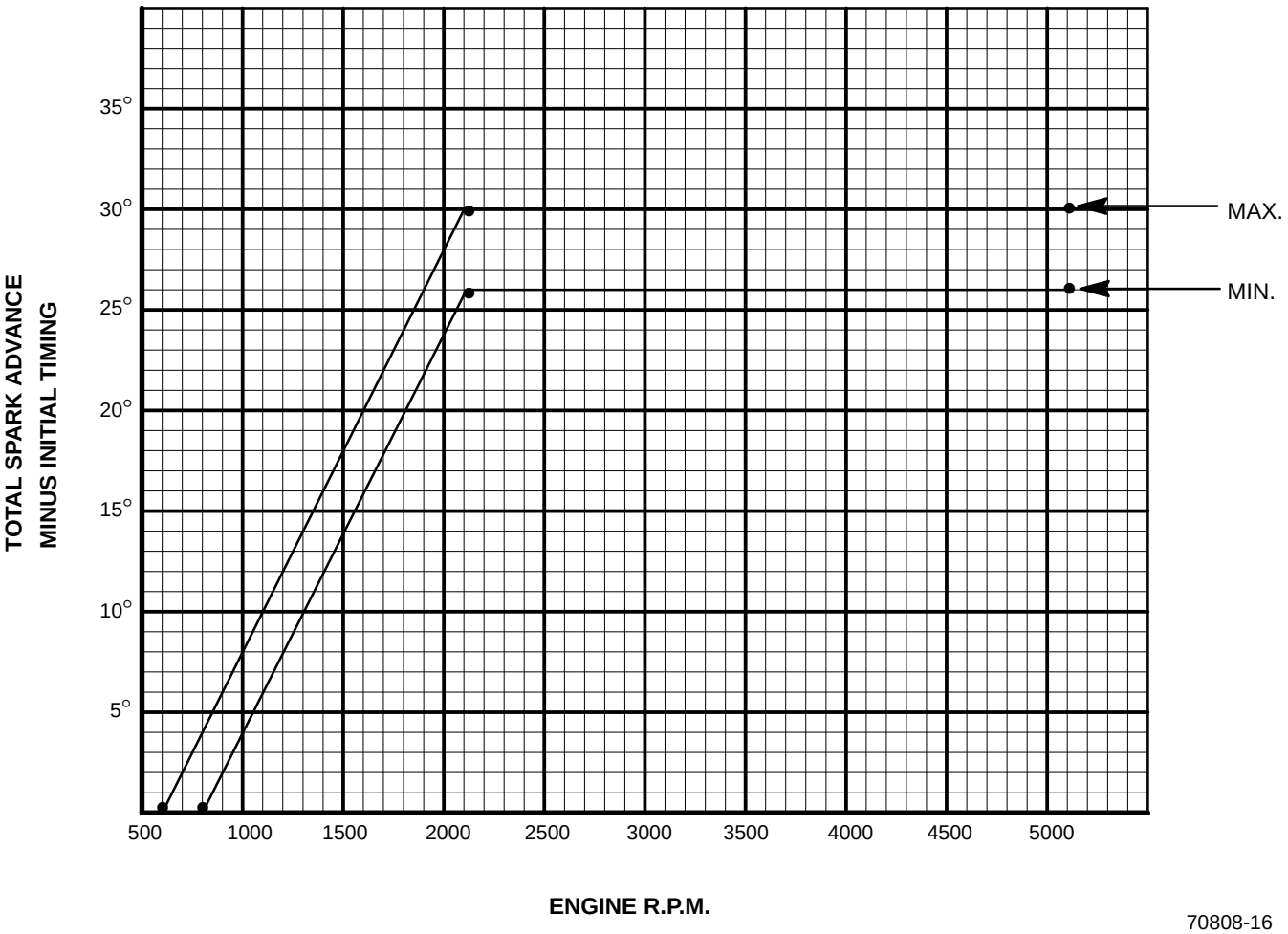


70808-17

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MCM 160, 165 (6 Cylinder) With Prestolite Distributor

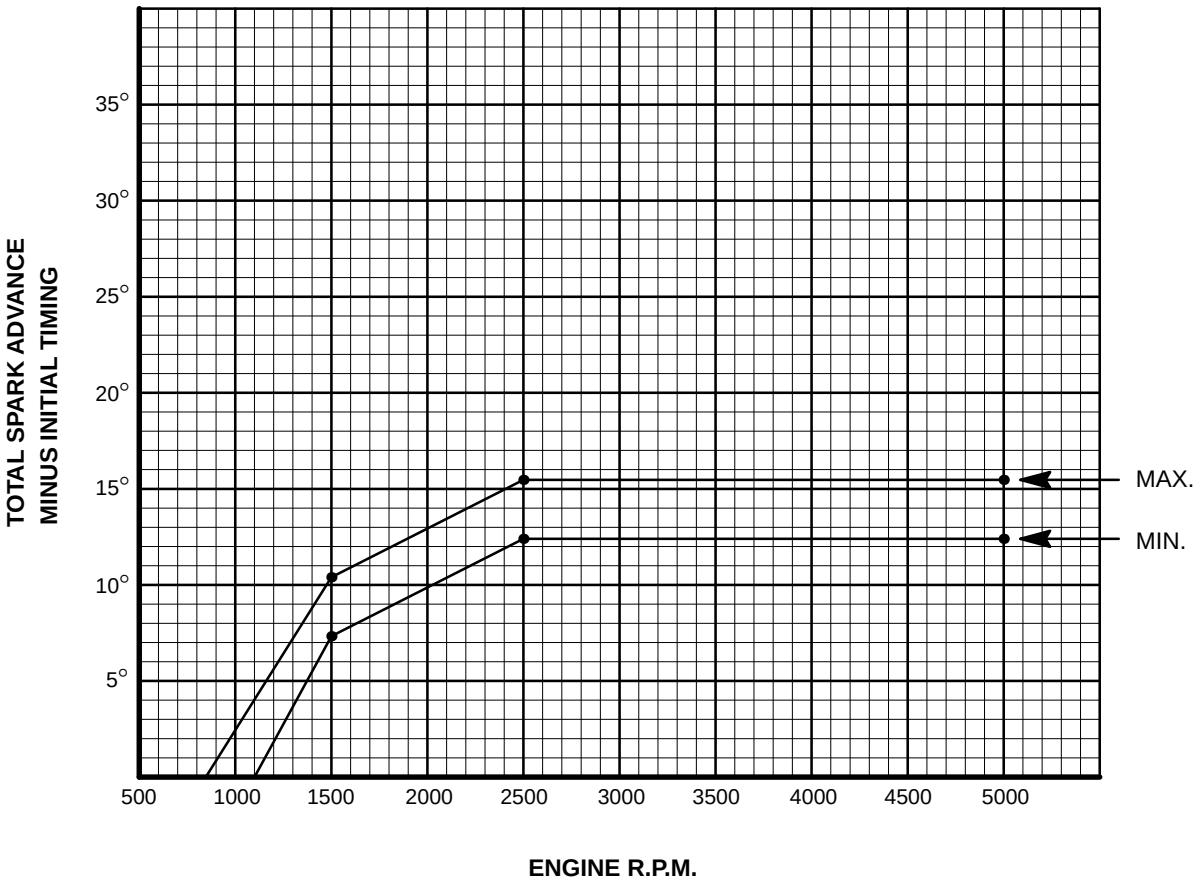
Distributor Part Number: 811192 (This is the replacement distributor for the Delco which is NLA).
Distributor Advance: 28°
Initial Timing: 6° BDTC
Total Advance: 34° @ 2100 RPM
Point Gap and Dwell: .016 in. (0.4 mm), 39° - 45°



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MCM V6 262 cid (4.3L) With Thunderbolt IV

Module Part Number: 390-9355A 2, 15247A 1 or 805361T 1
Identification Mark: V6-14
Module Advance: 14°
Initial Timing: 8° BDTC
Total Advance: 22° @ 2500 RPM

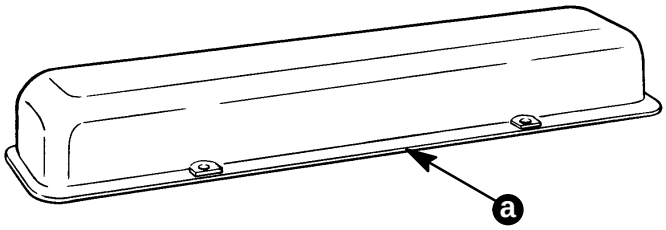


70808-7

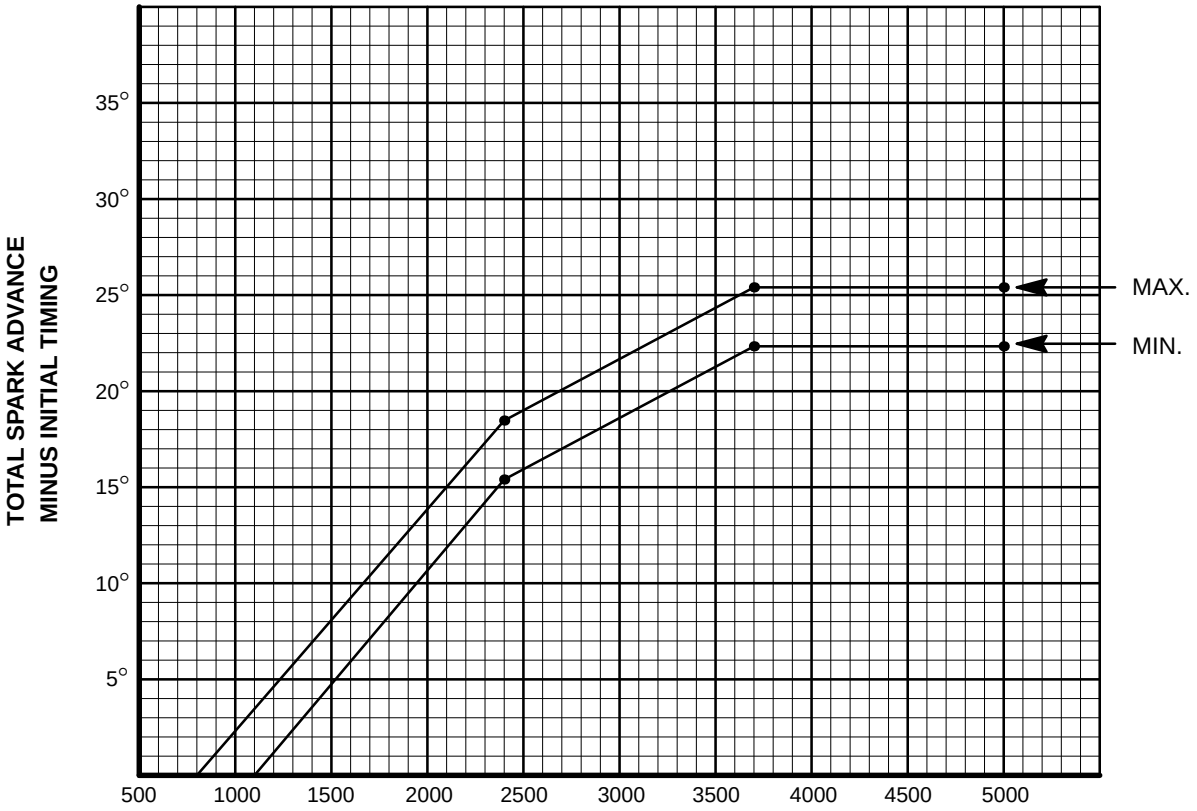
provided by http://www.crowleymarine.com

MCM/MIE V8 305/350 cid (5.0L/5.7L) (Except MCM 320 EFI) With Thunderbolt IV and Rocker Cover "A"

Module Part Number: 390-7804A 1, 390-7804A 3 or 15248A 1
Identification Mark: V8-24
Module Advance: 24°
Initial Timing: 8° BDTC
Total Advance: 32° @ 3700 RPM



Rocker Cover "A": Held to cylinder head by fasteners around lip (a) of cover.

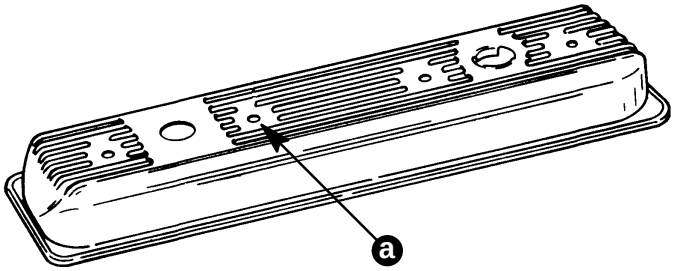


70808-8

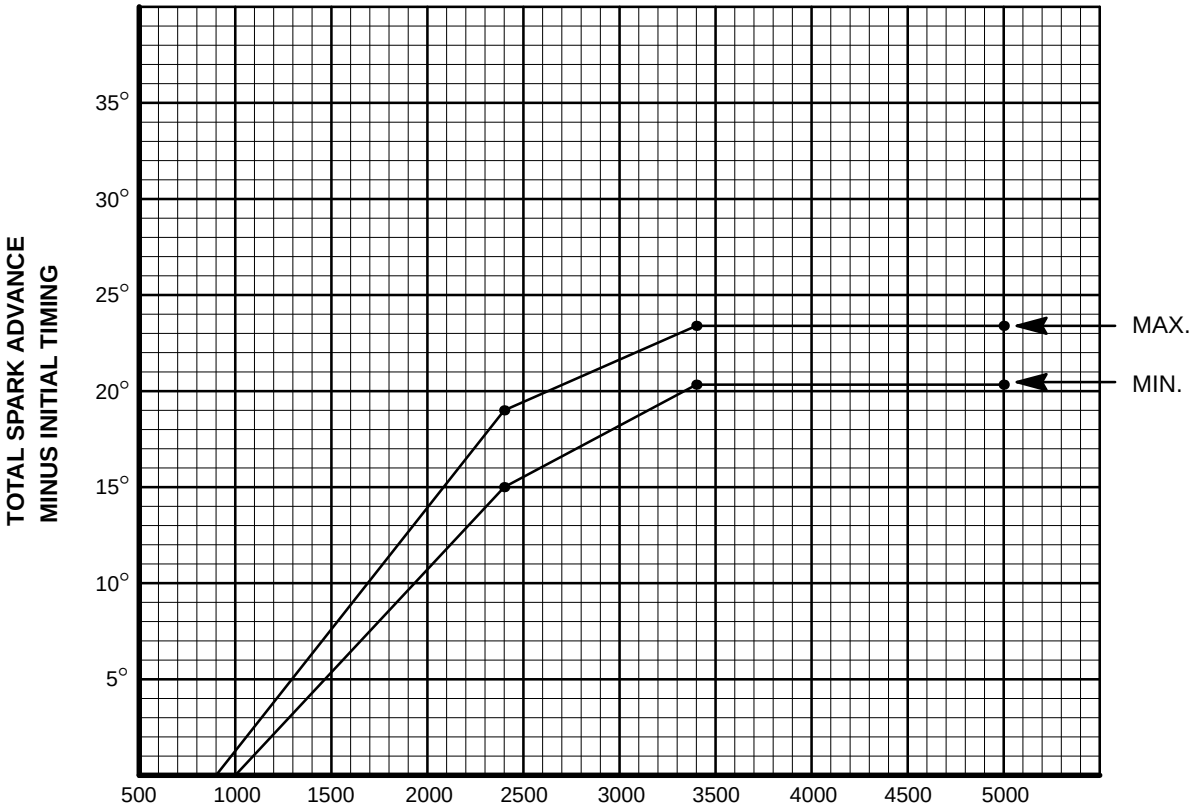
provided by http://www.crowleymarine.com

MCM/MIE V8 305 cid (5.0L) With Thunderbolt IV and Rocker Cover B

Module Part Number: 390-9607A 3, 15899A 1 or 805361T 3
Identification Mark: V8-22
Module Advance: 22°
Initial Timing: 8° BDTC
Total Advance: 30° @ 3400 RPM



Rocker Cover "B": Held to cylinder head by bolt thru top (a) of cover.

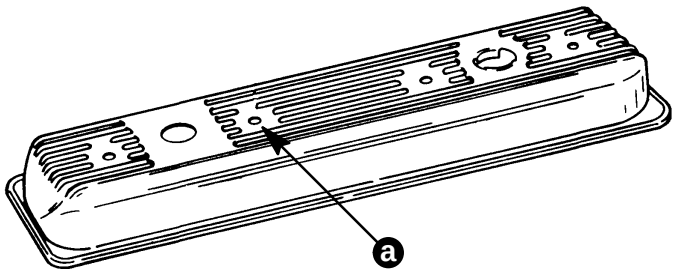


70808-9

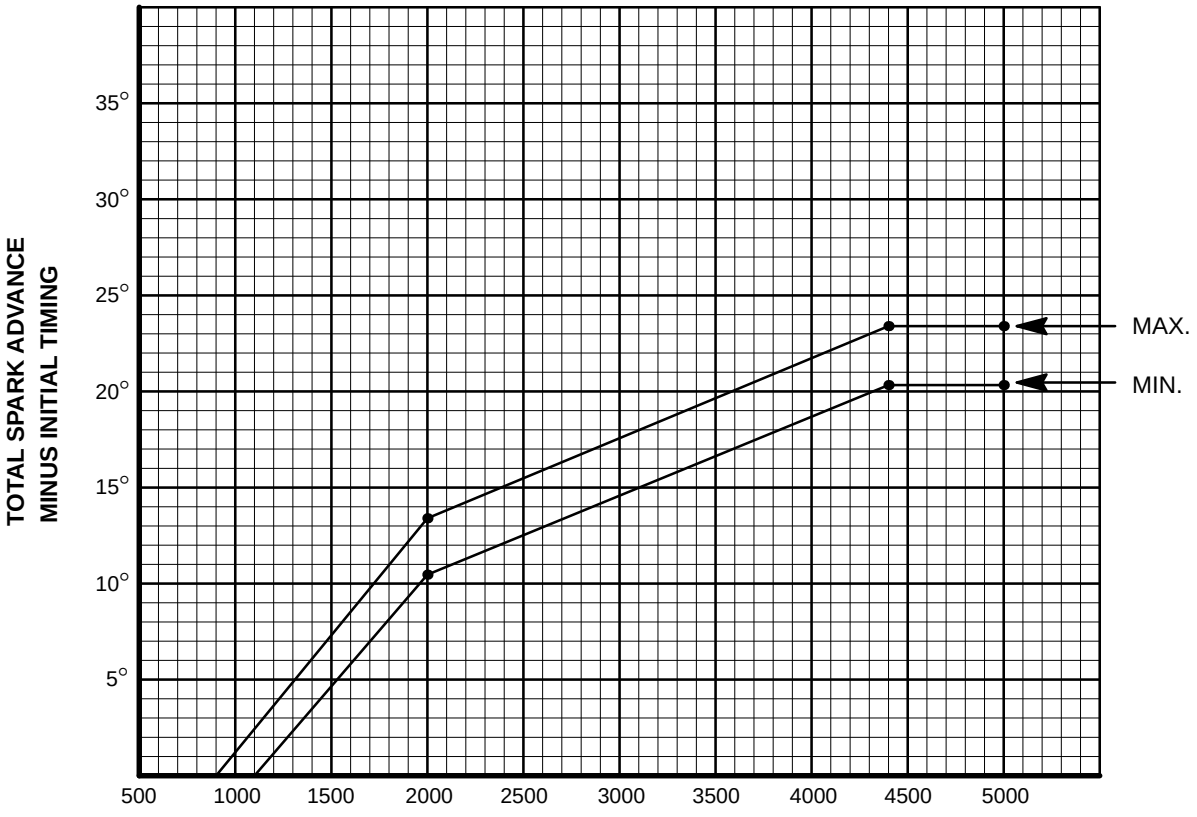
provided by http://www.crowleymarine.com

MCM/MIE V8 350 cid (5.7L) (Except Later MCM 5.7L Alpha, MCM 320 EFI, MIE 5.7L Comp Ski and Later MIE 5.7L Bluewater Inboards) With Thunderbolt IV and Rocker Cover B

Serial Numbers: Rocker Cover "B" and
MCM 260, 5.7L Alpha: 0F273497 and Below
MCM 350 Alpha: 0D617327 and Below
MCM 5.7L Bravo: 0D617327 and Below
MIE 260, 5.7L Inboard with Borg-Warner In-Line Trans: 0F449999 and Below
MIE 260, 5.7L Inboard with V-Drive or Hurth Trans: 0F349299 and Below
Module Part Number: 814295A 1 or 805361T 4
Identification Mark: V8-22A
Module Advance: 22°
Initial Timing: 8° BDTC
Total Advance: 30° @ 4400 RPM



Rocker Cover "B": Held to cylinder head by bolt thru top (a) of cover.

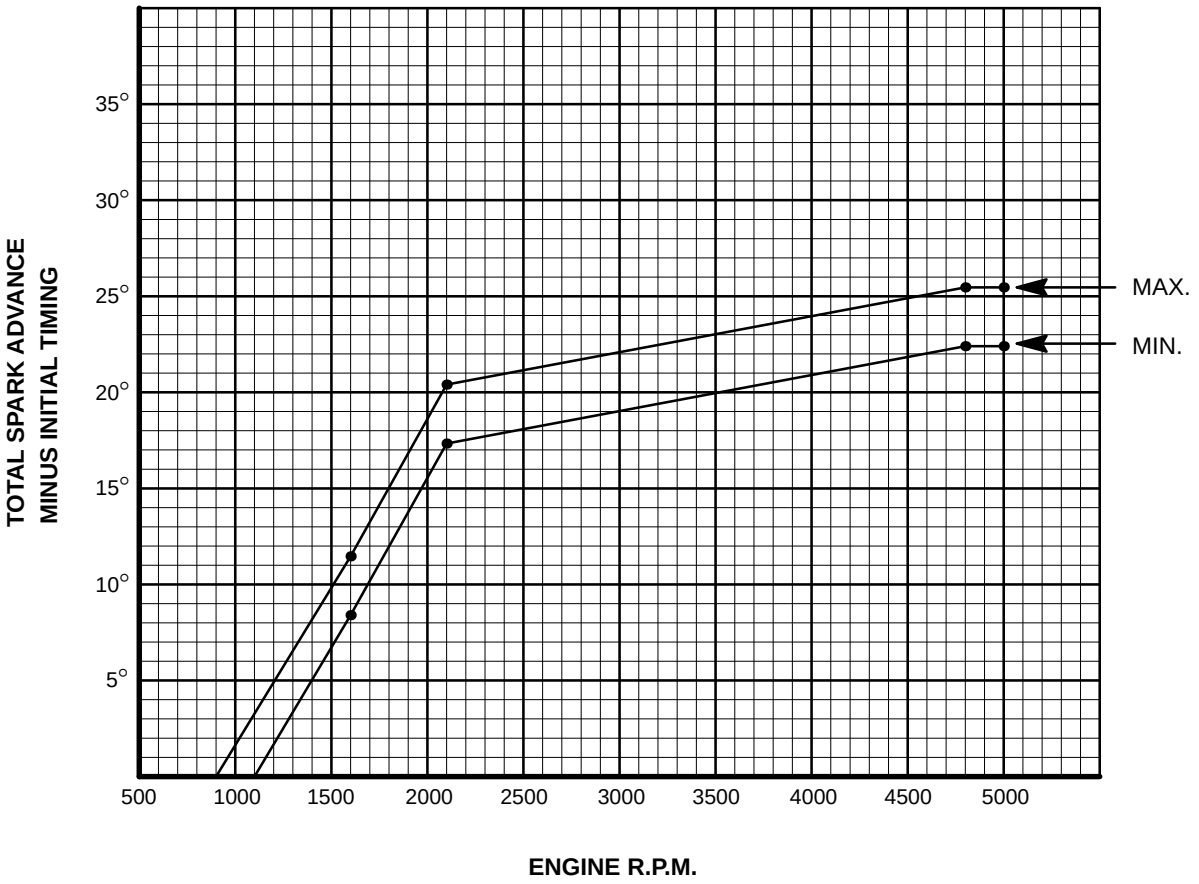


70808-10

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MCM/MIE V8 350 cid (5.7L) (Except MCM 320 EFI), MCM 7.4L Bravo 3 With Thunderbolt IV

Serial Numbers: MCM 5.7L Alpha: 0F273498-0F600999
MCM 350 Alpha: 0D617328-0F353690
MCM 5.7L Bravo: 0D617328-0F353524
MCM 7.4L Bravo 3: 0D838819-0F352105
MIE 5.7L Competition Ski: 0D624615-0F621899
MIE 350 Magnum Tournament Ski: 0D505374-0F349149
MIE 5.7L Inboard with Borg-Warner In-Line Trans: 0F450000-UP
MIE 5.7L Inboard with V-Drive or Hurth Trans: 0F349300-UP
Module Part Number: 821125A 1 or 805361T 6
Identification Mark: V8-24S
Module Advance: 24°
Initial Timing: 8° BDTC (MCM 7.4L Bravo 3: See # 16 Service Manual)
Total Advance: 32° @ 4800 RPM (Except 7.4L Bravo 3)

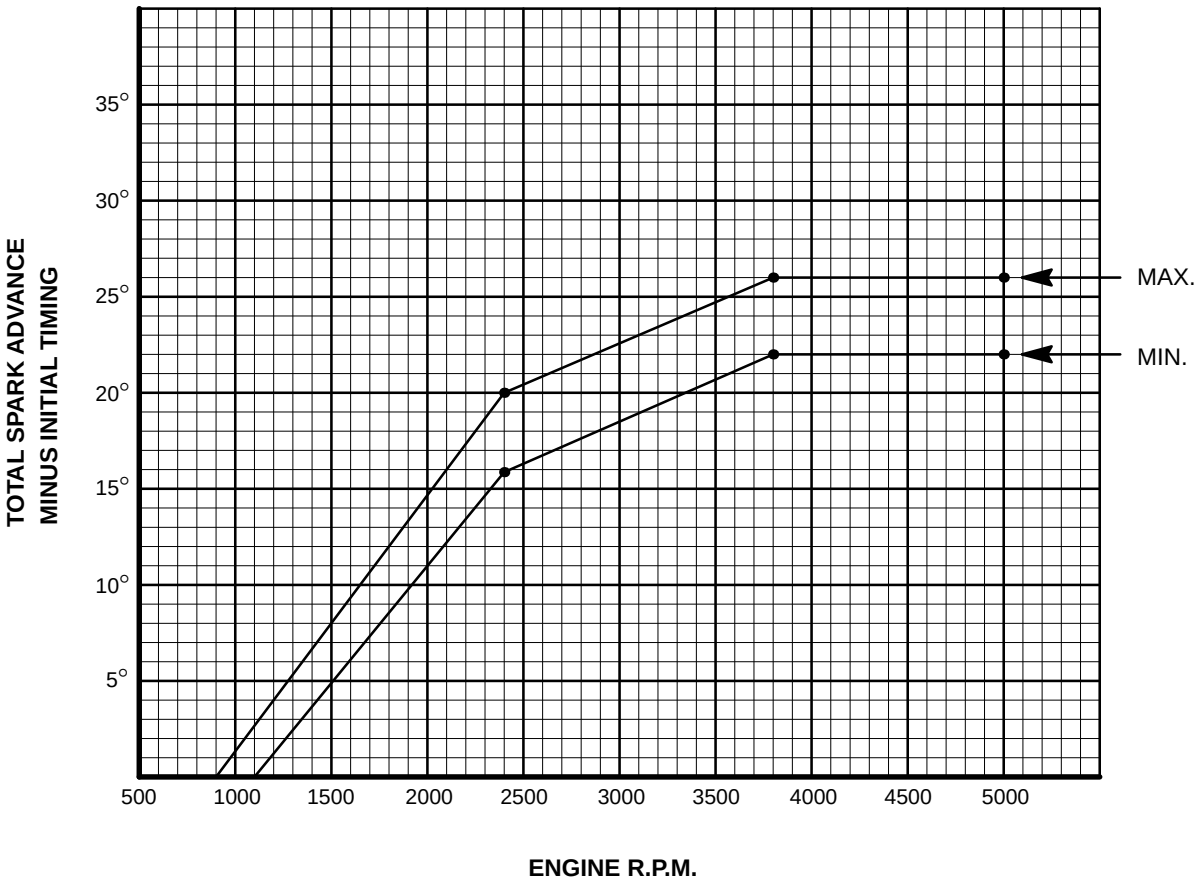


70808-1

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MIE V8 5.7L Competition Ski (S/N 0A338553-0B514626) With Mallory Distributor

Distributor Part Number: 13447A 1
Distributor Advance: 24°
Initial Timing: 10° BDTC
Total Advance: 34° @ 3800 RPM
Point Gap and Dwell: .016 -.019 in. (0.4 - 0.45 mm), 28° - 31°

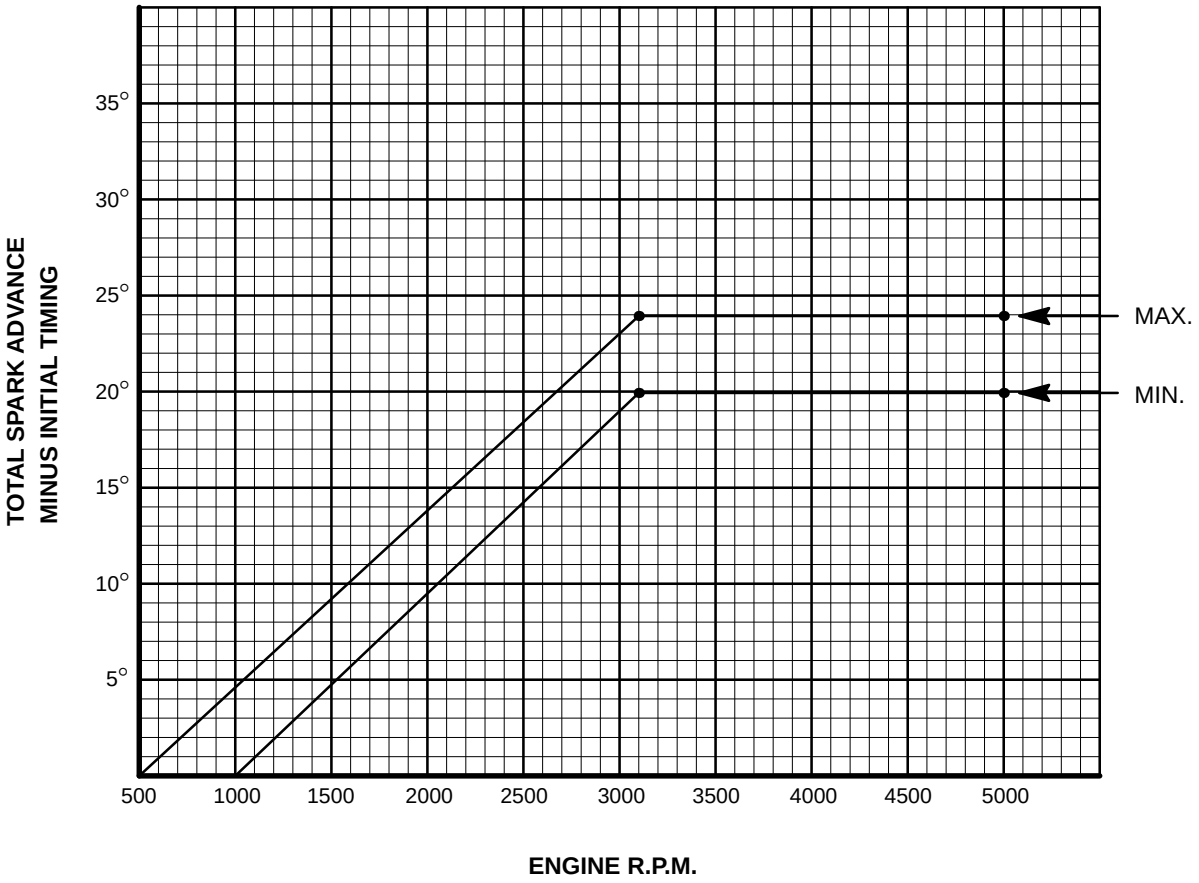


70808-11

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MIE V8 5.7L Competition Ski (S/N 0B514627-0D624615) With Prestolite Distributor

Distributor Part Number: 816148A 1
Distributor Advance: 22°
Initial Timing: 8° BDTC
Total Advance: 30° @ 3100 RPM
Point Gap and Dwell: .016 in. (0.4 mm), 26° - 32°

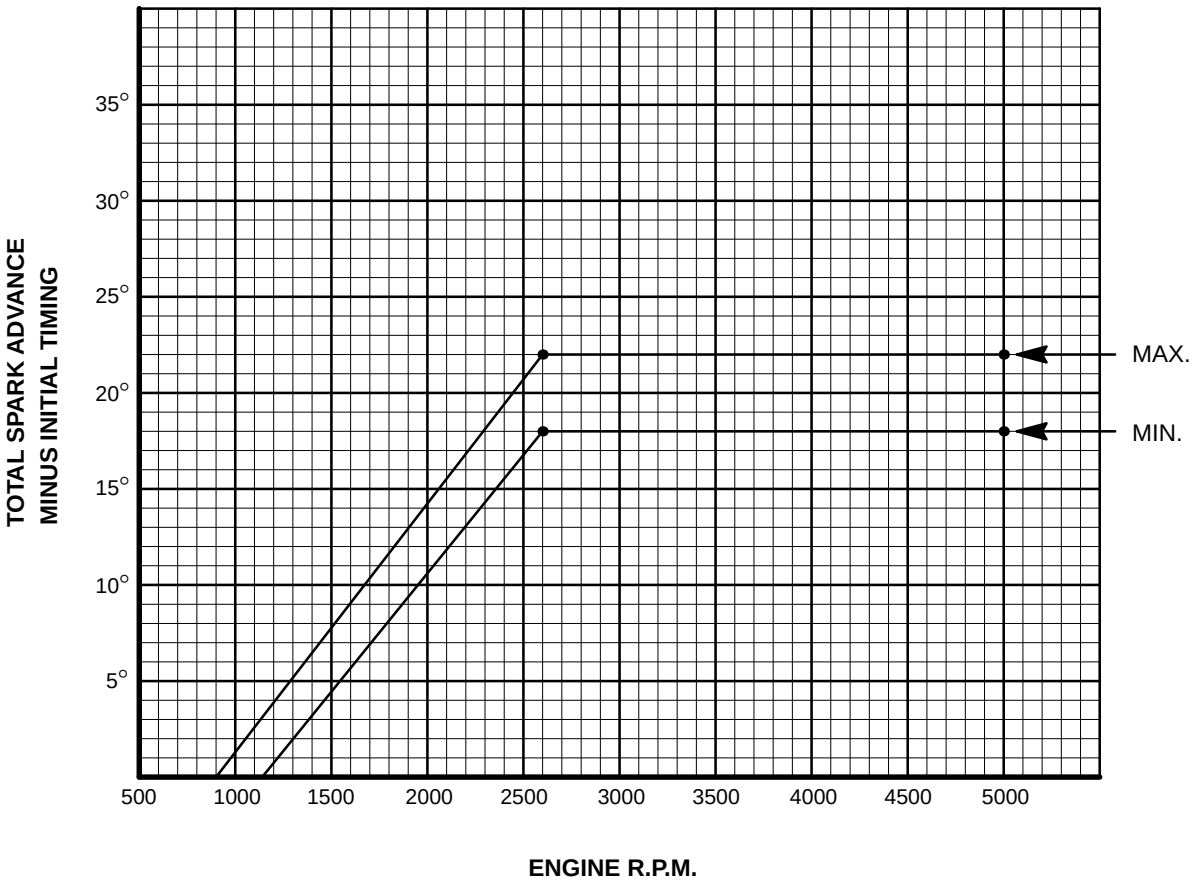


70808-12

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MIE V8 5.7L Competition Ski (S/N 0B514627-0D624615) With Mallory Distributor

Distributor Part Number: 17177A 1
Distributor Advance: 20°
Initial Timing: 8° BDTC
Total Advance: 28° @ 2600 RPM
Point Gap and Dwell: .016 - .019 in. (0.4 - 0.45 mm), 28° - 31°

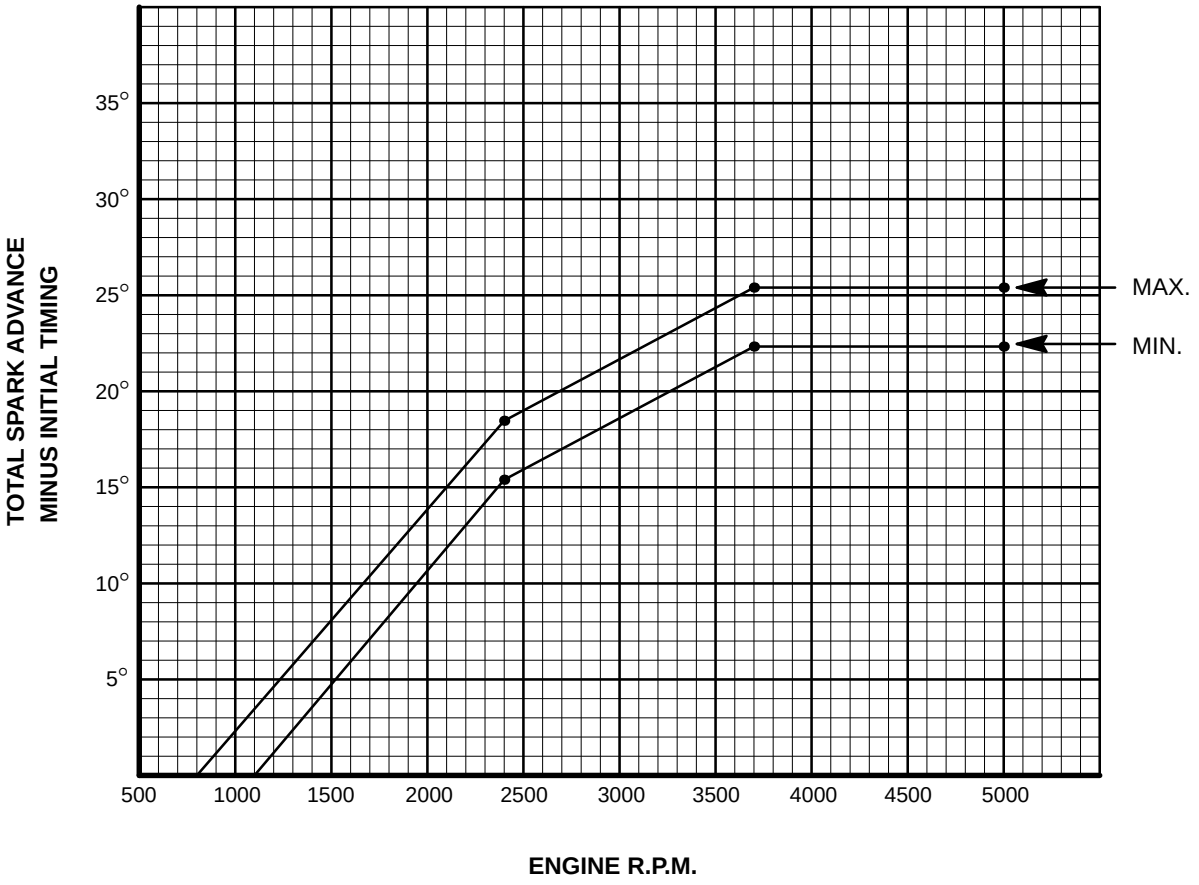


70808-13

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MCM/MIE V8 454 cid (7.4L) (Except MCM 7.4L Bravo 3 and HP Engines) With Thunderbolt IV

Serial Numbers: MCM 7.4L Bravo 1 & 2: 0B771113-0F351999
MCM 330 (B-W), 7.4L TR: 6083145 and Above
MCM 454 Mag Alpha, 7.4L Mag Alpha: 0A613927-0C407425
MCM 454 Mag Bravo: 0B721207-0F304999
MIE 340 Inboard: 5889914-0B788365
MIE 7.4L Inboard: 0B788366-0F349999
Module Part Number: 390-7804A 3, 15248A 1 or 805361T 2
Identification Mark: V8-24
Module Advance: 24°
Initial Timing: 8° BDTC
Total Advance: 32° @ 3700 RPM

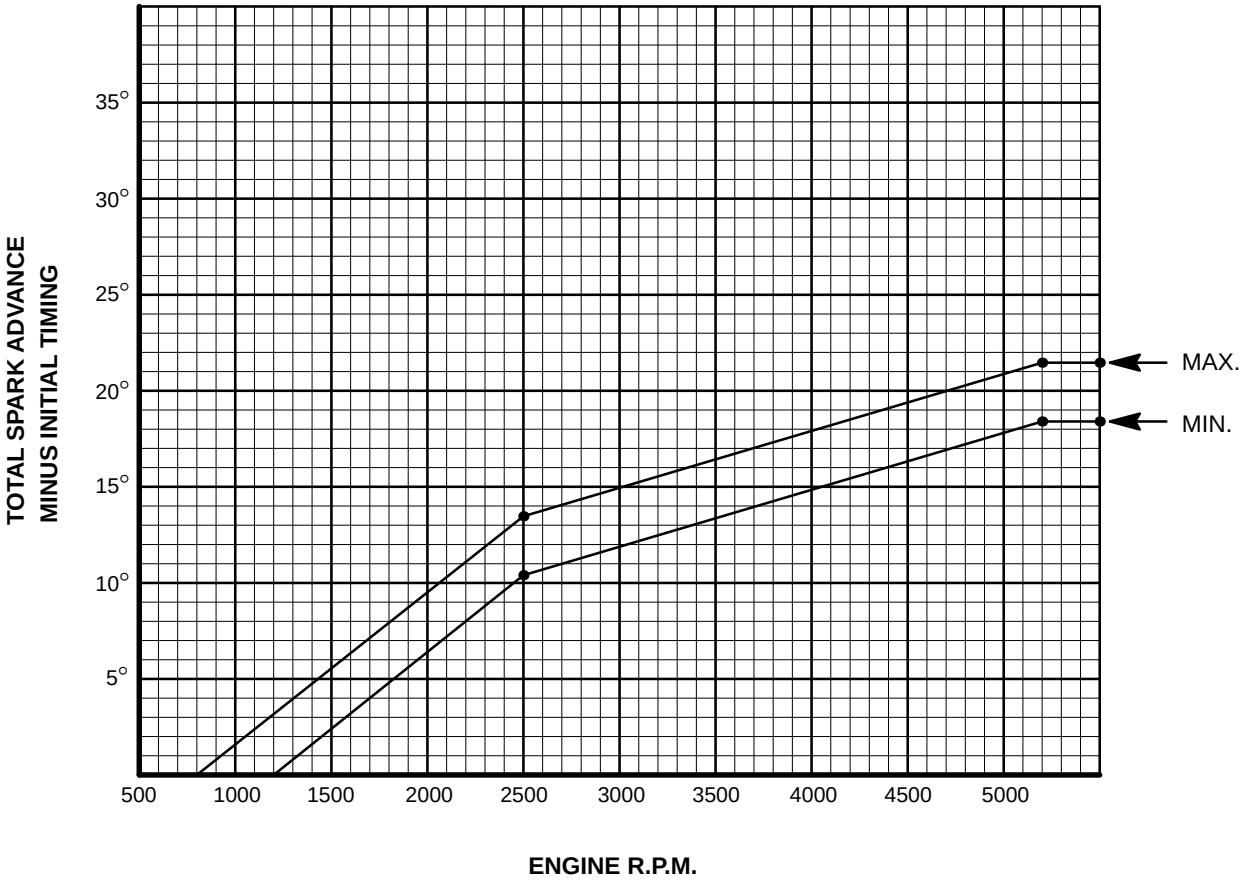


70808-8

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MCM/MIE V8 502 cid (8.2L) With Thunderbolt IV

Serial Numbers: 0F350274 and Below
Module Part Number: 817509T or 805361T 5
Identification Mark: V8-20R
Module Advance: 20°
Initial Timing: 8° BDTC
Total Advance: 28° @ 5200 RPM



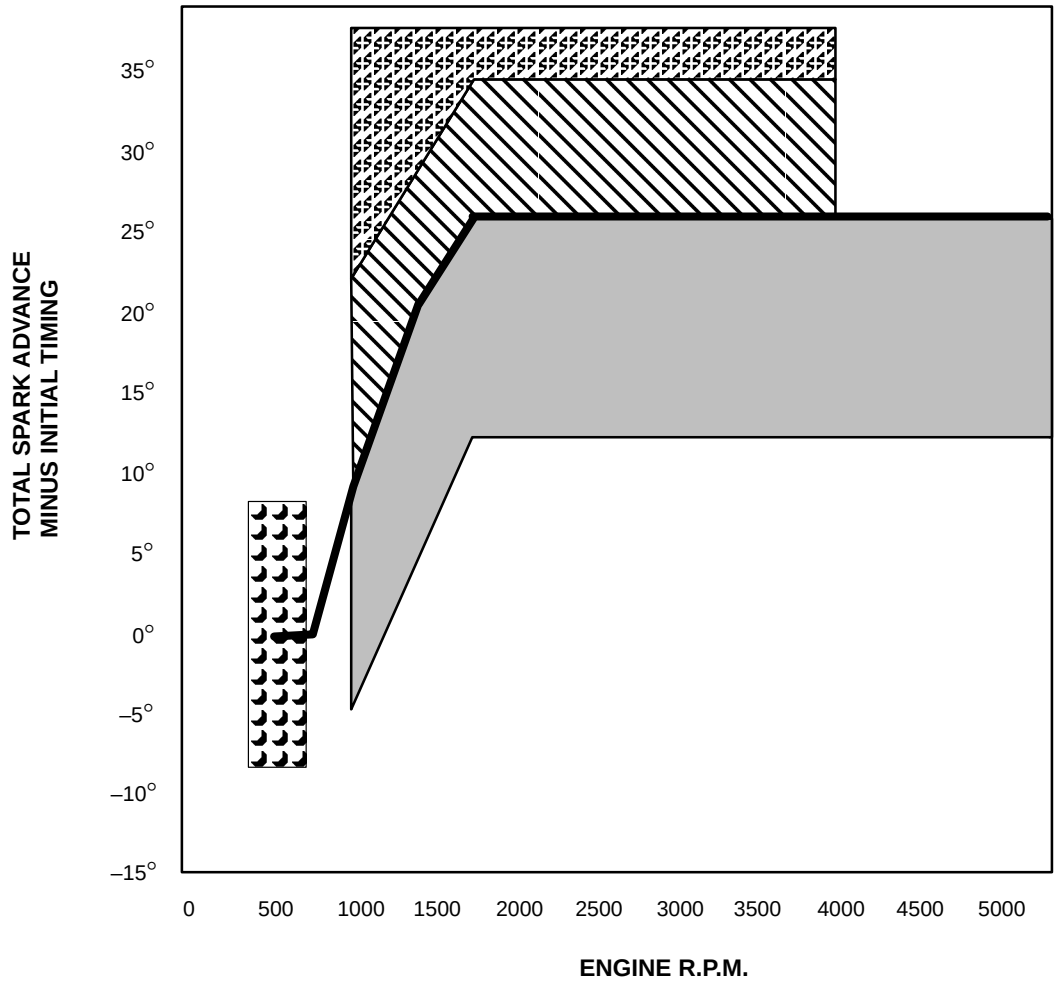
70808-14

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MCM/MIE V8 350, 454, 502 cid (5.7L, 7.4L, 8.2L) With Thunderbolt V

Serial Numbers:

*MCM 5.7L Alpha: 0F601000 and UP
MCM 5.7LX Alpha: 0F601957 and UP
MCM 350 Mag Alpha: 0F353691 and UP
MCM 5.7L Bravo: 0F353525-0F605335
*MCM 5.7L Bravo: 0F605336 and UP
MCM 5.7 LX Bravo: 0F601465 and UP
MCM 7.4L Bravo 1 & 2: 0F352000 and UP
MCM 7.4L Bravo 3: 0F352106 and UP
MCM 454 Magnum: 0F305000 and UP
*MIE 5.7L Comp Ski: 0F621900 and UP
MIE 350 Mag Ski: 0F349150 and UP
MIE 5.7L Inboard: Unknown
MIE 7.4L Inboard: 0F350000 and UP
MIE 8.2L Inboard: 0F350275-0F622189



The graph shows the typical envelopes for a Thunderbolt V Ignition Control Module. The numbers shown on the graph are not for any particular model of engine. This graph is used as an aid to help you understand how the system works.

= Base Timing Advance Curve

= Idle Speed Envelope

= Knock Retard Envelope (* Not Used On Models Without Knock Control)

= Acceleration Advance Envelope

= Mean Best Timing (MBT) Advance Envelope (Not Used On Ski Models)

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