

OPTION A AUTOMATIC ADVANCE

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DESCRIPTION OF OPTION:

This option allows the unit to compensate for fixed delays in variable speed machines. For example, if a solenoid takes 50 mSecs. to actuate and the machine's motor is running at 2 RPM, the error would be equal to 0.6 degrees. However, if the machine sped up to 25 RPM, the error would be 7.5 degrees. This error could cause serious problems with the operation with the machine if the delay is not compensated for.

The Automatic Advance function is only available on Limits 1 - 8 and only one delay (or sum of several delays) can be compensated for. The Auto Advance is calculated as follows:

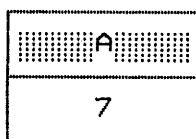
$$\{AAC\} = \{DELAY1\} * \{RPM/60,000\} * \{S.F.\}$$

$\{AAC\}$ = Total Number of Counts Advanced.
 $DELAY1$ = Fixed delay of System.
Maximum Value of 255 mSecs.
 RPM = Revolutions per Minute. 2000 Max.
 $S.F.$ = Scale Factor.

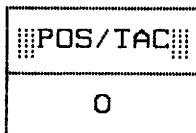
Note: The Advance is calculated and updated every 500 mSecs. This is the tachometer update rate.

PROGRAMMING ADDITIONS AND CHANGES:

The following Keys are used to program and access the Auto Advance function.



[A] KEY: This key is used to display and program the fixed delay.
[255 mSecs. MAX.]



[POS/TAC] KEY: This key is used to display the Count advance. If this key is pressed while the unit is displaying the Position and Tach, the display will change to display the Counts Advance and Tach.

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PROGRAMMING ADDITIONS AND CHANGES: (cont'd)

PROGRAMMING EXAMPLE:

You want to compensate for a system delay of 45 mSec. and you want to program the Advance Function on Limit 07.

NOTE: Only LIMITS 1 - 8 can be Programmed with the Auto Advance Function.

PRESS	DISPLAY	COMMENTS
*		Must be in Program Mode. See Section 12.1 of the Users Manual.
[A]	"DELAY1 xxx"	DELAY1 display. xxx = 3 digit #.
[0,4,5], [ENTER]	"DELAY1 045"	45 mSec. Delay programmed in.

[LS]	"LS01"	Limit Switch display.
[0,7], [ENTER]	"LS07" "07-xxx-yyy"	Limit Switch 7. xxx & yyy are present limits.
[FUNCTION], [A], [ENTER]	"07-xxx^yyy"	Function LED on. "^" is the notation to show that the Limit is Auto Advanced.

HARDWARE CONNECTIONS:

No additional Hardware is needed for this option.

MODEL NUMBER AND CHECKSUM:

The following Key strokes will display the Model Number and Checksum of an IPLC1 unit with an Option A.

PRESS	DISPLAY	COMMENTS
[PROGRAM]	"PROGRAM x"	x = Number of running program.
[NEXT]	"IPLC1-A- A"	Model and Revision Number.
[NEXT]	"EPROM DC02"	Checksum of Software.