

ALTRONIC®, INC.  
712 TRUMBULL AVENUE  
GIRARD, OHIO 44420

DIGITAL TIMING INDICATOR/TACHOMETER  
DI-3400, DIT-3400

INSTALLATION INSTRUCTIONS ADIT II 5-86

**WARNING:** Read these instructions carefully before installing or operating the DI/DIT device. An improperly installed or operating device may result in an unsafe operating condition of the monitored machine which consequently could pose the threat of personal injury to operators or other nearby personnel.

## **1.0 DESCRIPTION**

- 1.1 The Altronic digital timing indicator is a solid state unit giving a numerical readout of the ignition system timing point in degrees before top dead center on a LCD display. Power for the device is from the engine C.D. ignition system; a magnetic pick-up is used to input a signal for top dead center reference. The timing indicator reads out direct degrees BTDC (before top dead center). If the timing occurs after top center, the display shows the amount subtracted from 360° (355° for 5° ATDC). This eliminates any possibility of confusing before and after top center timing readings.
- 1.2 Two models are available:
  - DI-3400 Digital Timing Indicator
  - DIT-3400 Digital Timing Indicator / Tachometer - This model adds a 1 RPM, 0.67 second update time tachometer with quartz crystal time base accuracy. A push button on the front case is used to switch between timing Angle (indicated by the letter "A" at the left side of the display) and RPM (4-digit readout).
- 1.3 For reliable operation, the following instructions must be adhered to strictly.

## **2.0 MOUNTING THE DI / DIT DEVICE**

- 2.1 Mount the device inside a control panel using the template provided. For outdoor installations, enclose the device within the panel to avoid direct exposure to the weather. On model DIT-3400, be sure the enclosure door does not hit the push button.

NOTE: Avoid mounting with the LCD display facing direct sunlight. The device temperature range is -40°F. to +175°F.

### 3.0 WIRING (SEE GENERAL HOOK-UP)

- 3.1 TOP DEAD CENTER MAGNETIC PICK-UP WIRING - Connect magnetic pick-up leads to the top pair of terminals on the back of the device so that terminal "A" goes negative as the reference screw approaches and positive as the reference screw recedes.
- 3.2 NO. 1 CYLINDER COIL PRIMARY CONNECTION - Use the 24 AWG wire provided to connect to the indicated pair of terminals on the device observing the correct polarity indication (see chart below).
- 3.3 IGNITION SHUTDOWN LEAD AND GROUND - Use the 24 AWG wire provided to connect to the lower pair of terminals on the device observing the correct polarity indication (see chart below).
- 3.4 CONNECTION CHART

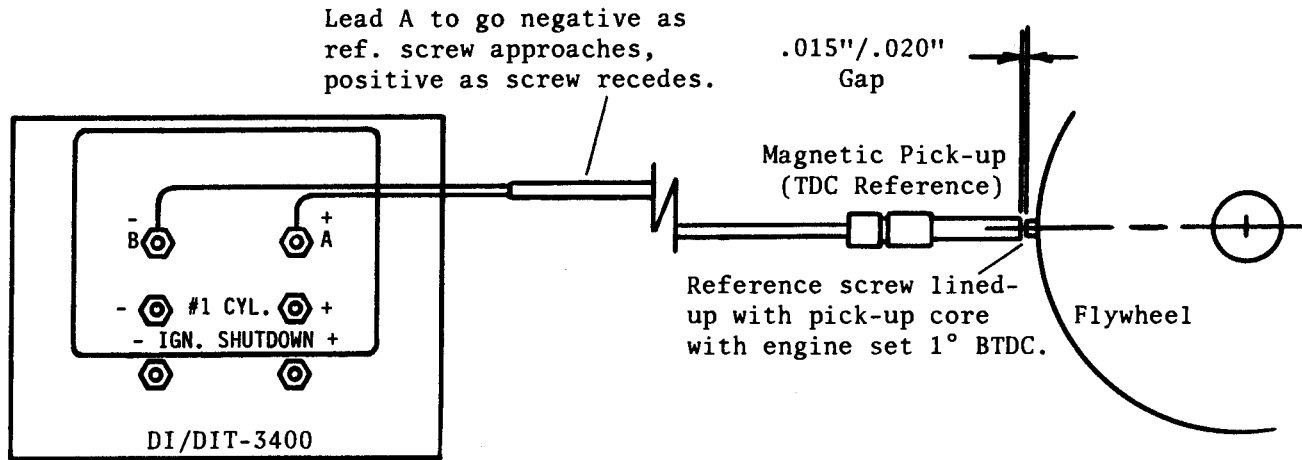
IGNITION SYSTEM	IGNITION SHUTDOWN		#1 CYLINDER COIL	
	NEG. (-)	POS. (+)	NEG. (-)	POS. (+)
Altronic I	Ground	Shutdown Term.	Ground	"+" (#1 coil)
Altronic I-6	Ground	"E" Lead	Ground	"A" Lead
Altronic II	"N" Lead	Ground	"-" (#1 coil)	Ground
Altronic III	Ground	"G" Lead	Ground	"A" Lead
Altronic V	Ground	"E" or "G"	Ground	"A" Lead
Bendix BLAR	Ground	"G" Lead	"A" Lead	"G" Lead
Bendix S1800/S1850	Ground	"N" Lead	"A" Lead	"N" Lead
Bendix SS	Ground	"V" Lead	"A" Lead	"V" Lead
F-M 3000	Ground	"G" Lead	Ground	"A" Lead
F-M 9000	Ground	"H" Lead	Ground	"A" Lead
F-M SCSA	"H" Lead	Ground	"A" Lead	Ground
U.T. Mag-tronic	Ground	"P" or "N"	Ground	"A" Lead

- 3.5 GROUND CONNECTION - Connect all ground connections directly to panel ground which should be the same as engine ground. DO NOT ground this device directly to the ignition system common coil ground on the engine.

#### **4.0 INSTALLING THE MAGNETIC PICK-UP AND REFERENCE SCREW**

- 4.1 Follow the steps below and reference the General Hook-up diagram.
- A. Determine a point adjacent to the flywheel where the magnetic pick-up can be mounted. This can be adjacent to the face or outside diameter. NOTE: While a crankshaft pulley may be used, a larger diameter wheel will give more accurate results over a wide speed range.
  - B. Be sure the point selected can allow a projectile of 1/8" to 1/4" for the complete 360° of rotation.
  - C. Set the engine at 1° BTDC for #1 firing cylinder. This is the point where the pick-up and projectile should line up.
  - D. Use a ferrous #8 or #10 threaded screw for the TDC reference. Cut off the head of the screw and file the end smooth. This should project 1/8" to 1/4" from the face of the flywheel.
  - E. Mount the magnetic pick-up on a secure, rigid bracket - preferably one allowing for slight angular adjustment. NOTE: Be sure that neither the pick-up nor the projecting reference screw interferes with other engine parts for the full 360° of rotation.
- 4.2 Once the installation is complete, it is recommended that the timing reading be compared to a timing light indication. If necessary, adjust the magnetic pick-up until the display reading agrees with the timing light indication.

GENERAL HOOK-UP - DI/DIT-3400



See Section 3.0 for  
other connections.

Use 24 AWG wire provided  
with the device for these  
connections.