OPERATING INSTRUCTIONS   MODEL DT-31Ri

INSTRUMENT CONFIGURATION

DIGATRON MODEL DT-31

TACH

| POWER ON | MODE | MAXIMUM RECALL | MEMORY RECALL | STORE CLEAR |

BACKLIGHT   SET LIMITS   POWER OFF
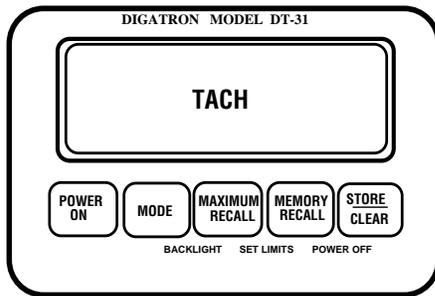
POWER ON

To turn the instrument on, depress the **POWER ON** button. The instrument will turn on after a 2 second delay.

SETTING FUNCTION LIMITS

The first thing to do before putting your instrument into service is to set the function operating limits. This will allow the instrument to give the driver a visual warning when any of the inputs exceed the limits you have set. *Limits should not be set to such an extreme that engine damage occurs before the driver can react to the problem.* To set the limits, use the following procedure. Turn the instrument on by pressing the **POWER ON** button. Then, press the **MAXIMUM RECALL** and the **MEMORY RECALL** buttons simultaneously and hold for approximately 2 seconds. This will put the instrument into the **SET LIMITS** mode of operation, which is indicated by the flashing display.

The *TACH Limits* require the setting of *two* separate parameters. The first setting is the *maximum RPM* limit for safe engine operation. The second setting is the *TACH calibration number* required to display the correct engine RPM.

Set the RPM limit as outlined below. Then press the **MODE** switch to move to Tachometer calibration.

To *increase* the RPM limit by the mininum amount quickly press and release the **MAXIMUM RECALL** button. To *decrease* the limit, quickly press and release the **MEMORY RECALL** button. To increase or decrease the limit by a large amount, press and hold either the **MAXIMUM RECALL** or the **MEMORY RECALL** button until the approximate limit value is reached. When finished setting the RPM limit, press and release the **MODE** button to move to the calibration number.

The instrument will show a number between 1 and 21 in the Tach display. The instrument divides the tach input signal by this number in order to display RPM correctly for different ignitions and engine types. Select a number using the **MAXIMUM RECALL** and **MEMORY**

RECALL buttons that will provide the correct display reading for your application.

The Following is a partial list of settings for various engines:

Set at "1" for single cylinder 2 cycle motors.

Set at "2" for 2 cylinder 2 cycle and 4 cylinder 4 cycle motors.

Set at "3" for 3 cylinder 2 cycle and 6 cylinder 4 cycle motors.

Set at "4" for V8 motors.

If you are unsure of the exact TACH calibration number, experiment. For example, if the calibration number is set at "2" and the RPM reading is double what it should be, set the calibration number at "4". Alternately, if the RPM reading is half of the correct value, decrease the calibration number to half it's original value.

To **SAVE** the current limits and to exit the **"SET LIMITS"** mode, press the **STORE** button.

Your instrument is now set up and ready for use.

MODE BUTTON

During operation the **MODE** button is used to change from the primary function to the secondary function in any display having *two* functions. When the instrument is first turned on, the primary function is displayed. The secondary function operates in the background until the mode button is pressed.

The **MODE** button is also used when *Setting Limits* and *TACH Calibration*, or in conjunction with the **MAXIMUM RECALL** button to operate the **BACKLIGHT**

STORE SWITCHES

Each time (Up to 3 times) the **REMOTE STORE** switch or the **STORE** button on the instrument is pressed the current reading for the tach sensor input is stored in the instruments memory.

The *WARNING INDICATOR LIGHT* and the instruments' display will flash briefly indicating a successful store of information.

This instrument contains enough memory to store three sets of sensor input readings. After three sets of readings are stored, additional attempts to store information will be ignored

In addition to these user stored readings, a **maximum** reading for this "power on" period is stored automatically.

MAXIMUM RECALL

The **MAXIMUM RECALL** button is used to display the **maximum** RPM reading. Storage of this reading takes place automatically and requires no input from the user.

To display this reading, before turning the instrument off, hold down the **MAXIMUM RECALL** button. The maximum reading will be displayed until the button is released.

Alternateing with the maximum reading will be the percentage of battery life remaining.

NOTE: If your instrument has a display with a secondary function, to see the stored readings you must first switch to that function with the **MODE** switch and *then* press the **MAXIMUM RECALL** button.

MEMORY RECALL

The **MEMORY RECALL** button is used to recall the readings you have stored in memory using either the **REMOTE STORE** switch or the **STORE** button on the instrument.

To recall the first set of readings you have stored, press and release the **MEMORY RECALL** button. The contents of the first memory will be displayed and the *left* decimal point in the display will flash, indicating memory one.

Press **MEMORY RECALL** again for the second set of readings which will be indicated by the *middle* decimal point.

A third press of **MEMORY RECALL** will bring up the last set of stored readings, indicated by the *right* decimal point.

Press **MEMORY RECALL** once more to return to normal display mode.

NOTE: If your instrument has a display with a secondary function, to see the stored readings press the **MODE** switch while in the **MEMORY RECALL** function.

BACKLIGHTS

To turn the Backlighting on or off, press and hold the **MODE** and **MAXIMUM RECALL** buttons simultaneously for approximately 2 seconds.

DISPLAY of OVERLIMIT/ OVERRANGE

OVERLIMIT or *UNDERLIMIT* conditions are indicated by `---` alternateing with the reading in the display where the *OVERLIMIT / UNDERLIMIT* condition occurs.

OVERRANGE conditions are indicated by `---` in the display where the *OVERRANGE* condition occurs.

This condition can also be caused by a bad or disconnected sensor.

WARNING INDICATOR LIGHT

The *WARNING LIGHT* provides the following information to the user.

1. Flashes constantly when the *limit* you have set is exceeded. Flashing will stop when the *OVERRANGE* condition falls below the *SET LIMIT*.

2. Flashes once when either the **REMOTE STORE** switch or the **STORE** button on the instrument is pressed to store data. No flash when either of these buttons is pressed indicates the memory is full.

BATTERY LIFE

A fresh set of AA alkaline batteries will last for about 120 hours of operation with the backlight in the instrument turned *off*. With the backlight *on* the battery life will be approximately 40 hours. Heavy duty batteries will last approximately half as long as the alkaline batteries. As outlined under the **MAX RECALL** heading, the instrument will display the percentage of battery life remaining. The instrument will also warn you of a low battery condition by displaying **"lo b"** in one of the displays. When this indication turns on the *TACH* display will give accurate information for approximately one hour.

POWER OFF

This instrument will turn itself off automatically approximately ten minutes after the engine is shut off.

You may also turn the instrument off manually by pressing the **MEMORY RECALL** and **STORE** buttons at the same time.

Any stored data will be lost at the moment the power is turned off. Record or view all stored information before turning the instrument off.

ELECTRICAL INTERFERENCE

If the instrument encounters excessive electrical interference it will display three vertical decimal points `:` in the TACH display. This indicates that the stored data could be invalid.

A large noise spike can cause the limits and calibration to reprogram themselves. If your instrument appears to be doing strange things, put it in the "SET LIMITS" mode and check to see that the limits and calibration are still where you set them.

If you have any questions about the operation of your instrument please call. One of our technicians will be happy to help you.

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