DT-30SN SERIES SENSOR INSTALLATION INSTRUCTIONS

These instructions cover all the sensors that can be used with Digatron instruments. Some may not pertain to your particular model.

Do not operate your instrument unless all the sensors are connected. Inputs that are left open can cause erratic display readings and possible instrument damage. Unused instrument inputs must be terminated at the back of the instrument with a shorting plug available from Digatron.

POWER HARNESS

SN-LCHBN: Your instrument receives it's power and tach signal from the lighting coil. Install the harness in the following manner.

Splice the red lead of the lighting coil harness directly into the lighting coil wire before the regulator using one of the "set screw" wire connectors provided. Connect the other lead of the lighting coil harness directly to the engine block.

Route the connector end of the harness to the instrument and plug it into the pigtail with the **black boot**. Twist the connector ¼ turn to lock it in place.

NOTE: Do not use the large white pigtail with the **gray boot**, it is an EGT input.

REMOTE STORE

SA-CBN: The remote store switch should be mounted to the handle bars within thumbs reach of the driver. This switch requires a 15/32 " mounting hole for installation. You will need to fabricate a mounting bracket for the switch. Mount the bracket to the handle bar in a position that will provide easy access to the switch while driving.

Tie the coil cord to the steering column where needed to prevent it from interfering with the driver.

Connect the cord to the pigtail with the **white boot** on the back of the instrument. Twist the connector ¼ turn to lock it in place.

CABLE ROUTING NOTES

This section applies to the sensors that run from the engine compartment to the instrument. These sensors should always be routed as far away as possible from the ignition system components (plug wires, spark plugs, ignition coils, distributor or magneto). Sensor cables too close to these components may pick up radiated electrical interference and cause erratic instrument readings and operation. A distance of at least 6 " from these components is desirable in all installations.

When routing sensor cables through any panels, be sure to use a rubber grommet to keep the cables from being cut by a sharp edge.

If you experience erratic readings after installing your instrument, it is usually helpful to separate individual sensor cables as much as possible. In particular if your sensor cables are too long, coil the excess cable of each sensor separately.

EGT SENSOR

EXT-172RBN: Install the sensor clamp assembly on the exhaust header. Position the clamp so that the sensor will be in the center of the header and approximately 2 " from the head side of the exhaust flange.

Using the fitting on the clamp assembly as a drill bushing, drill a 3/16 " hole through the header. Remove the clamp assembly from the header and redrill the hole to 13/64 ". Reinstall the clamp assembly aligning it with the hole just drilled.

Insert the EXT-172RBN sensor into the fitting so that the tip of the sensor extends ¼ " past the center of the header. Tighten the compression nut to lock it in place. Connect the black wire to any clean, unpainted metal surface on the engine (it is important that this is a good electrical connection).

Route the sensor cable from the motor to the instrument. Secure the cable with cable ties to prevent excessive movement. **The thermocouple cable is brittle and will break at the flex points if not properly tied down.** It is also a good practice to protect the cable with a short piece of fuel line at any point that it may rub against a hard surface.

All EGT sensors use a **gray boot** on their connectors. If you have more than one EGT sensor, you might want to use a permanent marking pen on the boot to identify individual sensors. Connect the sensors to the pigtails with the **gray boots** and twist the connector ¼ turn to lock.

WATER TEMP. SENSORS

*WT-***BN:* Water temperature should be taken from a point well below the water level in the block, or from a fitting provided for this purpose in the head (do not use the radiator). The compression fitting provided with the sensor is an 1/8 " NPT. You may need to use a reducing bushing in some applications to adapt the compression fitting to an available water temperature port. When installing the sensor, be sure that at least 1 " of the probe is in the water.

Route the sensor cable to the instrument and attach the cable to the **red boot**. Twist the connector ¼ turn to lock.

CHT SENSOR

SS-102: Only air cooled engines use this sensor.

Remove the spark plug from the cylinder you wish to monitor and discard the plug washer.

Check the surface of the head around the spark plug hole for a smooth, flat finish to assure a good seal when the sensor is installed.

Position the sensor over the spark plug hole and check to be sure you have sufficient clearance around the outside of the sensor body to avoid damage when the plug is installed and tightened. This may require some minor machining on some installations.

Install the spark plug finger tight to hold the sensor in position. Finish tightening with a plug wrench to the same torque as normally recommended. **Do not allow the sensor to turn as you tighten the plug.** The sensor is easily damaged if forced into a cooling fin.

Route the sensor cable from the motor to the RF style connector on the back of your instrument. Secure the cable to the frame of the snowmobile with tie-raps. Connect to the RF style pigtail on the instrument and turn the connector until tight.

OIL TEMPERATURE SENSORS

OT-***BN: Any port normally used to monitor the oil temperature may be used for the oil temperature sensor. The compression fitting supplied with the sensor is a standard 1/8 " NPT. In some installations, a reducing bushing may be required to adapt the compression fitting to an available oil temperature port. Insert the end of the sensor through the compression fitting into the oil to a depth of at least 1 ". Tighten the compression nut to secure the sensor in place.

Route the sensor cable to the instrument, securing the cable with cable ties. Attach the cable to the **yellow boot** and twist the connector ¼ turn to lock.

OIL/FUEL/BOOST PRESSURE SENSOR

The pressure sensor supplied with your instrument will monitor pressures up to 16 PSI for the OP-16S, 30 PSI for the OP-30 and 150 PSI for the OP-150S.

This type of sensor relies on some engine vibration and a good ground for proper operation. If you are not mounting it directly to the block, you should use a bracket that attaches to the block. (A muffler clamp works well for this purpose.) Attach the sensor extension cable to the sensor and route this cable to the instrument securing with cable ties. Attach the **brown**, **green** or **violet boot** to the same color on the instrument. Twist the connector ¼ turn to lock.

NOTE: If you are monitoring fuel pressure and are burning alcohol you must remove the sensor after draining your fuel. Alcohol vapors will damage the seals in the sensor.

JACKSHAFT RPM

MPH-102AS: Mount the sensor bracket so that the nylon arm is parallel to, centered on and approximately 1 " away from the shaft.

Trim the flexible collar to the proper length for your shaft and mount it on the shaft so that the edge with the magnets is centered on the sensor mounting hole in the bracket. Use the collar as is for 1 1/2 " shafts. Cut at the first mark for 1 1/4 "

shafts, the second mark for 1 1/8 " or the third mark for 1 " shafts. Secure the collar to the shaft with a cable tie.

Mount the sensor in the bracket so that the end of the sensor is within 1/8 " of the collar and the slots in the sensor are in line with the edge of the collar. Secure the sensor in this position with the nuts and lock washers provided.

Route the cable assembly to the instrument and secure with cable ties. Connect the cable to the **blue and black boot** on the back of the instrument and turn the connector ¼ turn to lock.

OVER LIMIT WARNING LIGHT

The panel mount "over limit" light is designed to be mounted in a dash panel or a bracket. It should be mounted directly facing you in a place where it is in your normal field of vision while driving.

The "over limit" light requires a 1/2 " mounting hole in the dash panel. Place the aluminum indicator bezel through the hole from the drivers side. Press the retaining washer on to the back side of the aluminum bezel. (This takes a lot of pressure.) Insert the lamp assembly through the back of the bezel into the lens. Press the plastic retaining plug into the rear of the bezel to secure the lamp assembly in place.

The helmet mount version of the light is contained in a suction cup that is designed to mount on the side of your face shield at eye level and out of your direct line of sight. Experiment to find the best location on your face shield and then attach the suction cup. Use a dab of petroleum jelly or baby oil on the suction cup for best adhesion.

Route the cable to the instrument, secure it with cable ties and connect it to the **orange boot**. Turn the connector ¼ turn to lock.

REPAIRS

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

Your instrument is warranted to be free from factory defects and electronic failure for one year from the date of purchase. Physical damage during normal usage is not covered under the warranty. Be sure to fill out and return your warranty card for our records. If we do not have a card on file for your instrument, you will be charged for repairs unless you can provide us with proof of purchase date.

When returning an instrument for repair, enclose a note indicating your return address, phone number and a detailed description of the problem. Send your instrument and sensors so that we can check the complete system. Repairs will normally be completed within ten working days.

Send repairs to:

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