Collect Quality Data for Analysis with a TRIO Data Collector

This procedure provides tips on collecting quality vibration data and explains how to change sensor orientation should a physical sensor attachment pad not match what is shown in the database.

Collecting quality data with your TRIO™ is the key to a successful vibration monitoring program. Diagnostics are most accurate when based on consistent, quality data.

The following tips will help you capture the best data possible for diagnostics.

Tip #1: Ensure Consistent Locations & Proper Orientation

The use of sensor attachment pads ensures data is collected from the same location and in the same orientation every time.

SENSOR ORIENTATION USING THE HVA NOMENCLATURE
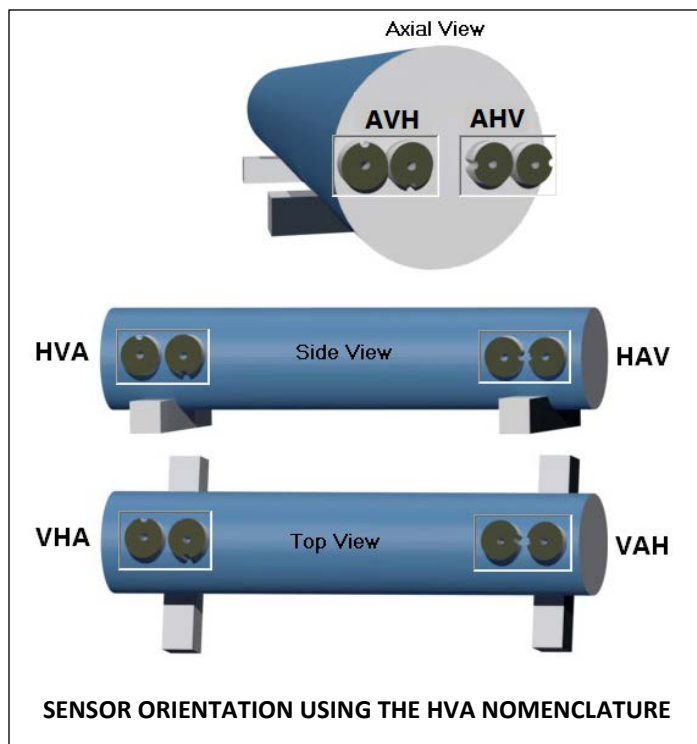
Supported Nomenclature

H = HORIZONTAL
V =VERTICAL
A = AXIAL

R = RADIAL
A = AXIAL
T = TANGENTIAL

X = X-AXIS
Y = Y-AXIS
Z = Z-AZIS

Verifying Orientation Prior to Collection

When collecting data, you should always confirm that the orientation shown on the screen of the TRIO matches the actual orientation of the pad on the machine.

Changing the Orientation in the Database

If the orientation shown on the Data Collection screen does NOT match the orientation in which the pad is mounted on the machine, you must correct the orientation in the database. Correcting this is important because diagnostics are performed under the expectation that data was acquired from a specific orientation.

1. From Data Collector Mode on your TRIO, select the location with the incorrect orientation from the tree.

2. Select the **Test Setup** tab.

3. Click the **Change Orientation** button.
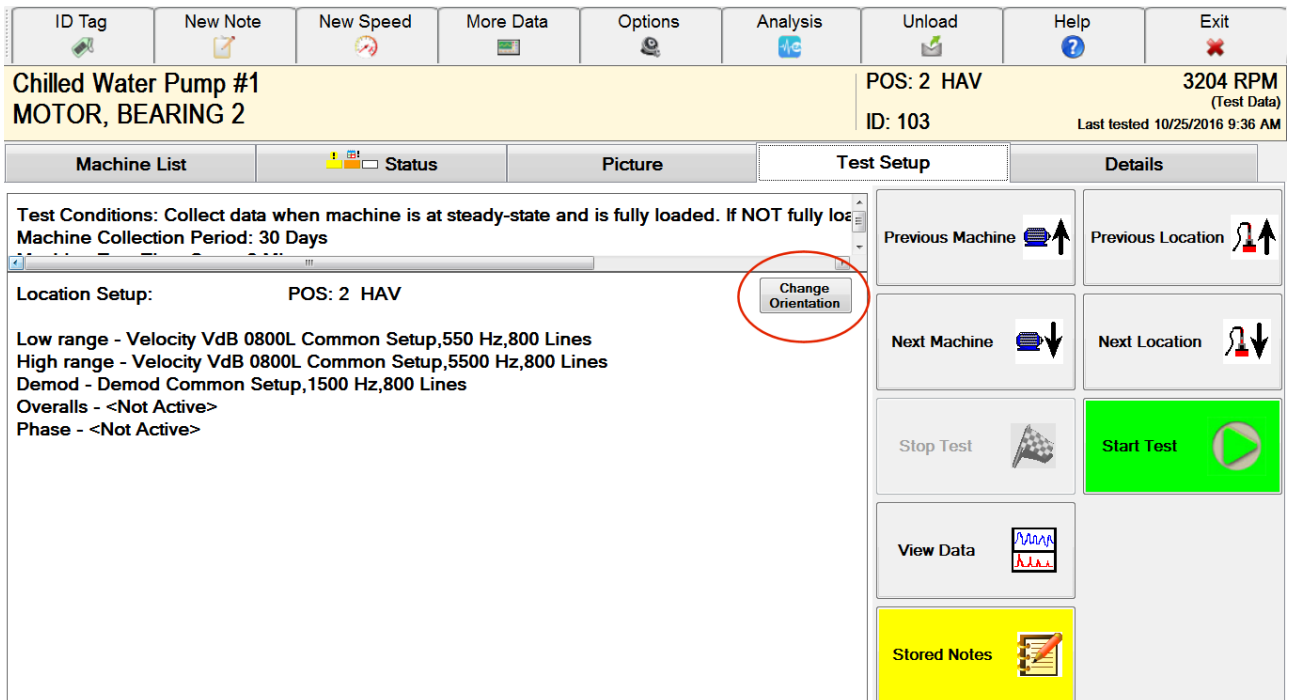
4. Select the correct orientation from the drop-down list. All available orientations are listed.
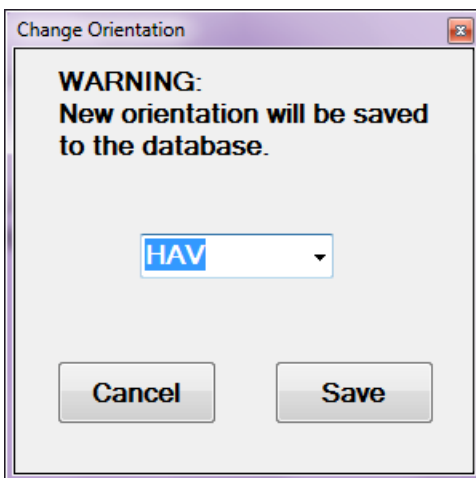
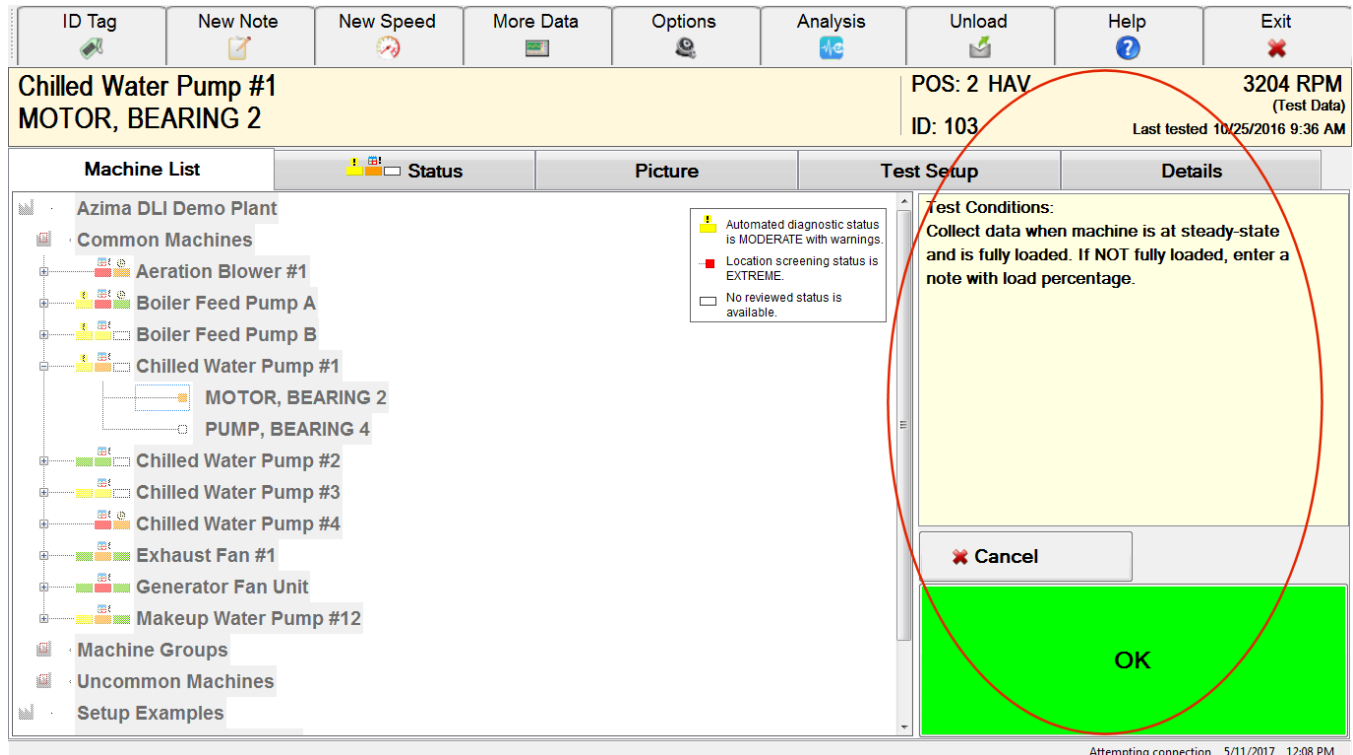**IMPORTANT!** This database change applies immediately on your TRIO. However, if analysis is performed using ExpertALERT or StandardALERT software installed somewhere *other* than on your TRIO, your analyst will not see the new orientation or the field note until your TRIO has synchronized to its master database via replication or survey file transfer.

5. Click **Save**. A field note is added to let your analyst know about the change.

Tip #2: Capture Data Under Proper Operating Conditions

For machines that run steadily at one speed, having a machine on and running usually provides the proper operating condition for testing.

However, in some cases, proper diagnostics require data be collected under certain conditions – such as during a specific part of a cycle for variable speed machines. Your analyst will specify the desired test conditions in the database and you are prompted to acknowledge the conditions (by clicking **OK**) before collection starts.

Tip #3: Do Not Split a Machine's Collection Between Multiple TRIOs

All measurement locations on a machine should be collected using the same TRIO to ensure a complete "machine test."

If you have multiple TRIOs in use at your site, do not split up the collection on a single machine.

You can collect different machines on different TRIOs, but you should NEVER split the locations on a *single* machine between TRIOs.

# Tip #4: Collect from All Locations within a Short Time Period

Diagnostics are most accurate when vibration data is collected from all locations on a machine within a reasonably short time span.

Your analyst specified a "test time span" for each machine based on how long it should take to collect data from all of the measurement locations on that particular machine. (The time span is usually between 10 and 30 minutes.)

If you do not collect data from all locations on the machine within this time span, you are prompted about whether you want to keep the data from the "older" tests or start a new machine test for all of the locations. In most cases, you should start a new machine test and retake measurements from all locations.

To see what the test time span is for a particular machine, do the following:

1. Switch to Analysis Mode.

2. Select the machine from the tree.

3. Chose **File>Open machine**.

4. Select the **Machine Info** tab and review the Test Time Definition settings at the bottom.

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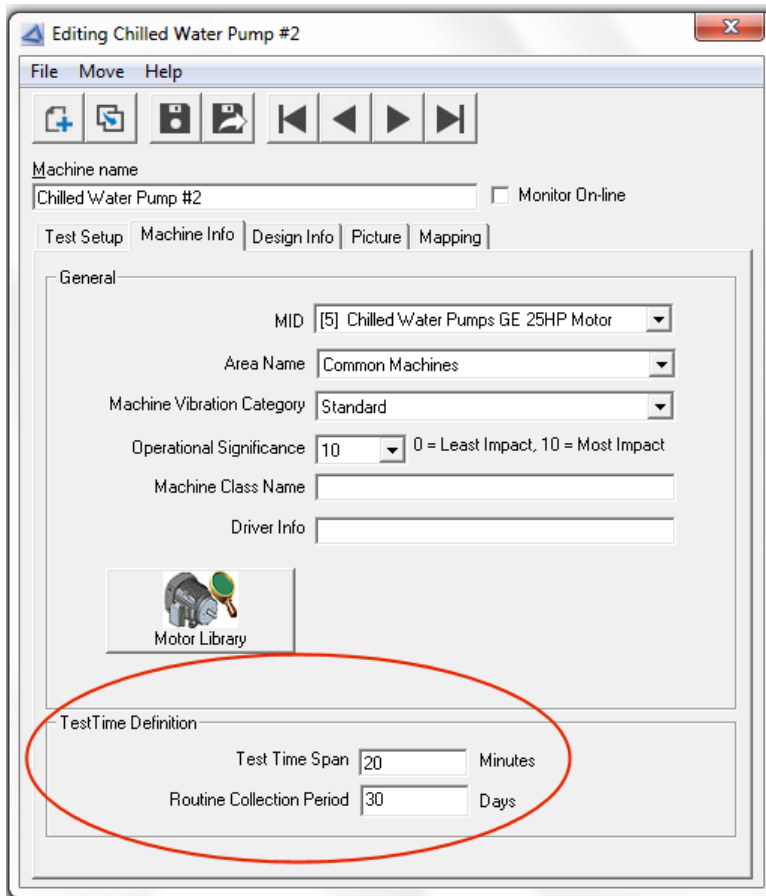
Complete!

This completes the procedure.

Additional Documentation

When using a TRIO, the *TRIO User's Guide* and the *ALERT User's Guide* are both available at the Azima DLI Resource Center at https://knowledge.azimadli.com. You can also access the same information in online format by clicking the **Help** button in either Data Collector Mode (for TRIO™ information) or Analysis Mode (for ALERT™ information). When using the WATCHMAN Reliability Portal, detailed information is available from any Portal page via the **Help** icon:

Questions?

Contact your Azima DLI Analyst or Program Manager

See your WATCHMAN Services implementation document for milestones,
program schedule, and contact information for your entire Azima DLI team.

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