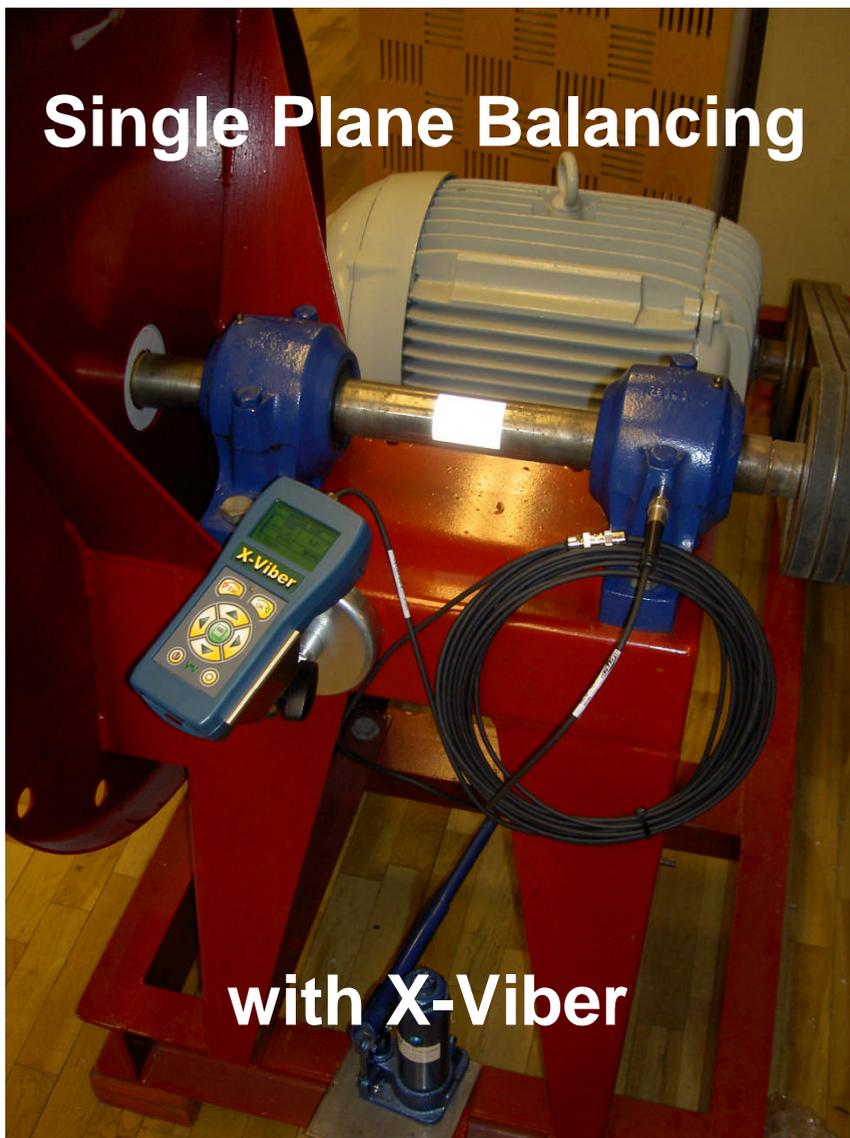


Single Plane Balancing



with X-Viber

Version 1.00
VMI AB 28 August 2006

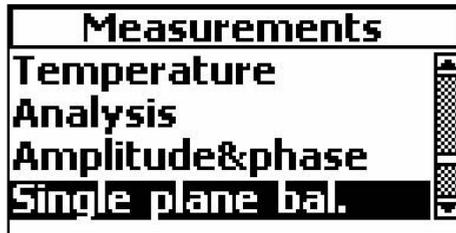
Press firmly the **ON/OFF** or **ESCAPE** or **OK** button until the instrument starts.



Move the black line with the  **Up** or **Down** buttons to **Measurements** and press the **OK** button.

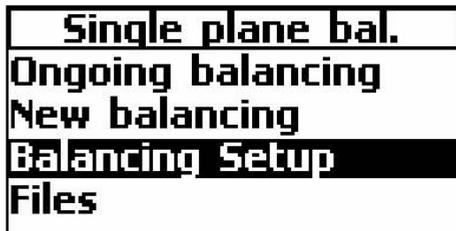


Move the black line with the  **Up** or **Down** buttons to **Single plane bal.** and press the **OK** button.



Before we start to balance we have to make some settings in the Set Up window.

Move the black line with the  **Up** or **Down** buttons to **Balancing Setup** and press the **OK** button.



Move the black line to **Unit:**

Press the side arrow   buttons to select the preferred unit.

METRIC: mm/s, um, mm, m/s, g
IMPERIAL: in/s, mils, thou, g

| Settings | |
|-----------------|--|
| Unit: mm/s rms |   |
| Frequency RPM |   |
| Weight(gr): 1 |   |
| Weight angle: 0 |   |

Move the black line to **Frequency:**

Press the side arrow   buttons to select the preferred unit RPM or HZ.

| Settings | |
|-----------------|--|
| Unit: mm/s rms |   |
| Frequency Hz |   |
| Weight(gr): 1 |   |
| Weight angle: 0 |   |

Move the black line to **Weight(gr):**
Here you can select the default size of the trial weight.

Press the side arrow   buttons to increase or decrease the value. The weight can also be changed at a later stage.

| Settings | |
|-----------------|--|
| Unit: mm/s rms |   |
| Frequency RPM |   |
| Weight(gr): 10 |   |
| Weight angle: 0 |   |

Move the black line to **Weight angle:**
Here you can select the angular position of the trial weight.

Press the side arrow   buttons to increase or decrease the value. Note, you must place the trial weight in the selected angle.

| Settings | |
|------------------|---|
| Unit: mm/s rms |   |
| Frequency RPM |   |
| Weight(gr): 3 |   |
| Weight angle: 45 |   |

Move the black line to **Auto-save:**

Press the side arrow   buttons to select **ENABLE** or **DISABLE**. In Enable mode the X-Viber will automatically finish and store the measured value.

| Settings | |
|-------------------|--|
| Frequency RPM |   |
| Weight(gr): 5 |   |
| Weight angle: 0 |   |
| Auto-save: ENABLE |   |

Move the black line to **Auto-advance:**

Press the side arrow   buttons to select **YES** or **NO**.

If **YES** is selected X-Viber will automatically move to the next step in the balancing procedure.

| Settings | |
|-------------------|--|
| Weight(gr): 5 |   |
| Weight angle: 0 |   |
| Auto-save: ENABLE |   |
| Auto-advance: NO |   |

Hardware installation

1. Put a piece of the reflective tape on the shaft.
2. Insert X-Viber into the magnetic holder and direct the rpm sensor towards the reflective tape. The distance between the X-Viber and the reflective tape should at least be 200mm. Tighten the locking screw.
3. Mount the vibration transducer on the bearing and in the direction where you have the highest vibration caused by unbalance.
4. Use the extension cable if the measuring distance is longer than 1m.



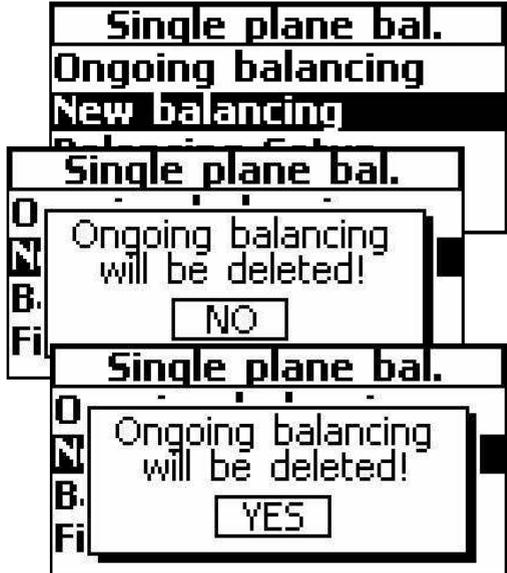
5. If the X-Viber has difficulties to measure the speed then put the instrument in an angle towards the reflective tape as in the picture above and try to increase the distance between the X-Viber and the tape. If the instrument is measuring the speed at low but not at high speeds the reflex tape is probably too small.

Move the line to **New balancing** and press the  **OK** button.

Note!
This message will appear.
If you answer **NO** you cannot start a new balancing.

Press the side arrow   buttons to change from **NO** to **YES** then press the **OK** button.

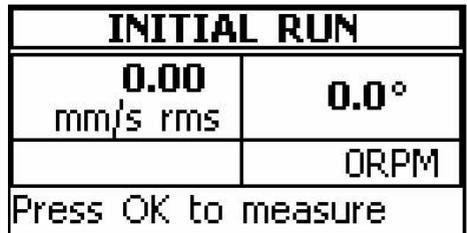
Note! When you select **YES** the existing ongoing balancing will be deleted.



The new balancing round has started.
Start the machine and select your balancing speed.

Press the  **OK** button and X-Viber starts to measure.

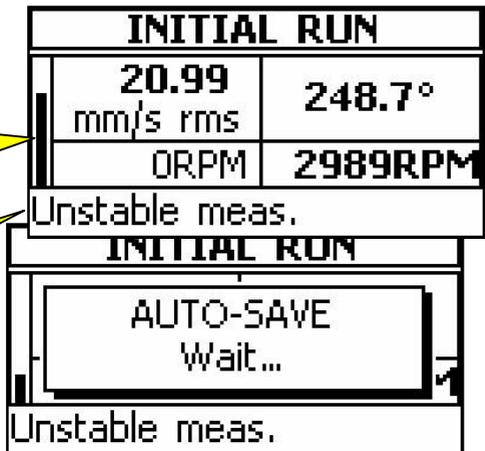
Adjust the X-Viber on the magnet holder until you get a stable rpm value and tighten the locking screw again.



This window is shown, when X-Viber is measuring.

This black bar is showing the stability of the measurement. Do not press the OK button until it is low.

This message is showing the same thing. In Auto-Advance mode X-Viber will move to the next step when this message disappears.



This window is shown when X-Viber has finished and stored the measurement.

| | |
|---------------------|---------|
| INITIAL RUN | |
| 21.02 mm/s rms | 249.8° |
| | 2985RPM |
| Press OK to measure | |

This part shows the vibration level.

This part shows the angle of the vibration.

This part shows the machine speed.

Press the  **OK** button, if you want to repeat this measurement.

Press the right **Side arrow** button  if you want to continue balancing.

Now it is time to tell the X-Viber about the size of the trial weight.

| | |
|---------------------|------|
| WEIGHT at 0° | |
| 0.00 mm/s rms | 0.0° |
| 3 gr | 0RPM |
| Press OK to measure | |

This part shows the angle for the trial weight.
This value comes from the default values you made in the Settings menu.

This part shows the size of the trial weight.
This value comes from the default values you made in the Settings menu.

You can increase or decrease the size of the trial weight with the  **Up** or **Down** buttons.

If you select to mount the trial weight at 0 (zero) then you can mount the trial weight wherever you want, but you must name this direction 0 (zero). All new angles will refer to this direction.

Start the machine and press the  **OK** button to start the measurement.

X-Viber starts to measure.

If the message “Weight too small” appears, you must stop the machine and increase the trial weight and measure again.

You must adjust the machine speed to be close to the speed at the initial run, because the speed itself will influence the vibration level.

If the speed deviation is too large the message “Incorrect speed” will appear.

If the Auto-save function is activated X-Viber will automatically save the measurement, when the value is sufficiently stable.

X-Viber is now presenting all the data for this measurement.

Press the right **Side arrow** button  if you want to continue.

When the measurement is finished and saved this message will appear.

First, make a mark in the rotor close to the trial weight indicating 0 (zero) degrees.

Second, remove the trial weight!!!!!!

| | |
|-------------------|---------|
| WEIGHT at 0° | |
| 20.98 mm/s rms | 250.8° |
| 2985RPM | 2987RPM |
| Weight too small | |

| | |
|-------------------|---------|
| WEIGHT at 0° | |
| 14.09 mm/s rms | 246.3° |
| 2985RPM | 2982RPM |
| Unstable meas. | |

This part shows the machine speed at the initial run.

This part shows the present machine speed.

| | |
|----------------------|--|
| WEIGHT at 0° | |
| AUTO-SAVE Wait... | |

| | |
|---------------------|---------|
| WEIGHT at 0° | |
| 14.09 mm/s rms | 246.3° |
| 3 gr | 2982RPM |
| Press OK to measure | |

| | |
|--------------------------|--|
| WEIGHT at 0° | |
| Remove trial weight!! | |
| OK | |

X-Viber is now showing the size and angular position of the balancing weight.

Note!
The angle is always measured against rotation starting at 0 (zero).

Note!
The radius the balancing weight must be the same as for the trial weight.

Mount the balancing weight in the rotor.

Note!
The unit for weight in X-Viber is grams but you can disregard this unit. If you for example enter the size of the trial weight in ounce you will also get size of the balancing weight in ounce.

| FINE BALANCING | |
|----------------|--------|
| 8.83 grams | 347.1° |
| 2985RPM | 0RPM |
| Improvement: | -0.0 % |

This part shows the size of the balancing weight. The unit can be changed with  AUX button.

This part shows the angular position for the balancing weight.

Start the machine and press the  OK button to start the measurement with the balancing weight installed.

Press the right **Side arrow**  buttons or the  OK button, if you want to continue.

This window shows the additional weight you have to install in the rotor if you like to further improve the balancing status.

This procedure can be repeated several times.

The improvement shows how much lower the vibration is now compared with the Initial values

| FINE BALANCING | |
|------------------|---------|
| 0.43 mm/s rms | 179.7° |
| 2985RPM | 2982RPM |

| | | | | | |
|---|--|-----------|--|---------|--|
| Unstable meas. | | | | | |
| <table border="1"> <tr> <td colspan="2">AUTO-SAVE</td> </tr> <tr> <td colspan="2">Wait...</td> </tr> </table> | | AUTO-SAVE | | Wait... | |
| AUTO-SAVE | | | | | |
| Wait... | | | | | |
| Unstable meas. | | | | | |

| FINE BALANCING | |
|----------------|---------|
| 0.19 grams | 284.9° |
| 2985RPM | 2989RPM |
| Improvement: | 97.9 % |

Saving the balancing

Press the **Escape**  button to exit the balancing function or

press the right **Side arrow**  button to change to **Yes** and then

press the **OK**  button.

Move the black marker line to **Files** and

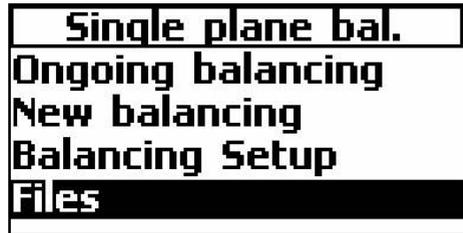
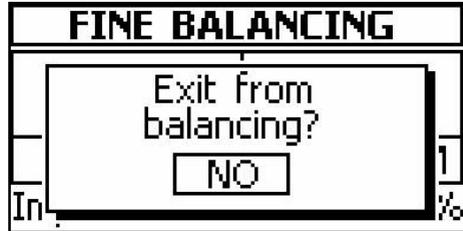
press the **OK**  button.

There are 10 memory locations 0-9 where you can save a balancing route. You can save a balancing route. X-Viber is automatically selecting the first available free location in the memory.

You can change to another number with

the **Side arrow**  buttons.

Press the **OK**  button to save the balancing.



This information shows that the selected location is free for storage.



This mark **®** shows that this location is reserved and contains balancing information.

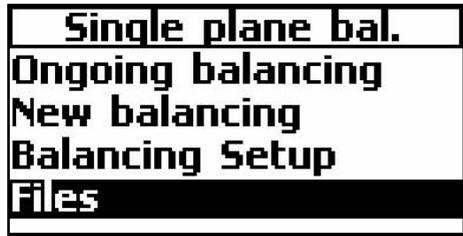
This information shows the date and time when this balancing round was stored.

Note!

When storing a new balancing on an occupied location the old balancing will be lost.

Viewing a stored balancing

Move the black marker line to **Files** and press the  **OK** button.



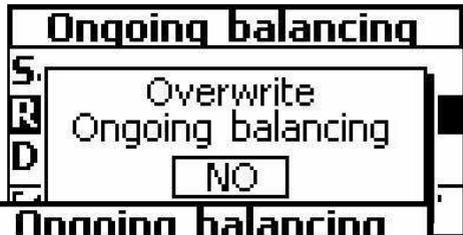
Move the black marker line to **Restore**.

You can change to another number with the **Side arrow**  buttons.

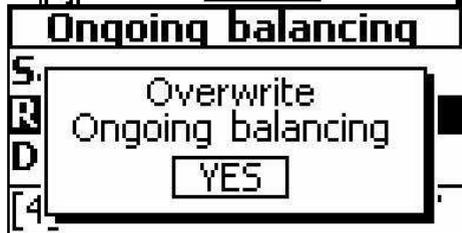


You can only view locations marked with an ®.

Press the  **OK** button to view the balancing.



Change to **Yes** with one of the **Side arrow**  buttons and press the  **OK** button



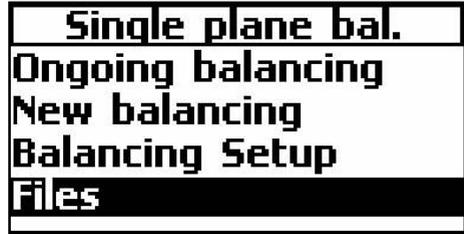
Note!

All information about the existing Ongoing balancing will be lost if it is not previously stored.

Go back to **Ongoing balancing** to view details in the selected balancing procedure.

Deleting a stored balancing

Move the black marker line to **Files** and press the  **OK** button.



Move the black marker line to **Delete**. You can change to another number with the **Side arrow**  buttons and press the  **OK** button



Change to **Yes** with one of the **Side arrow**  buttons and press the  **OK** button



This information shows that this location is now free for storage.

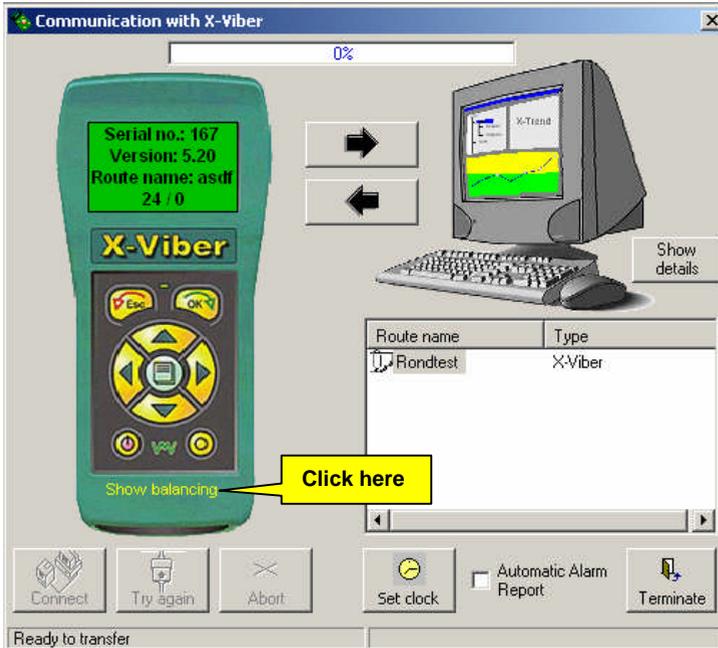
SAVING A BALANCING FILE IN THE X-TREND SOFTWARE

Transferring a Balancing file to the X-TREND software

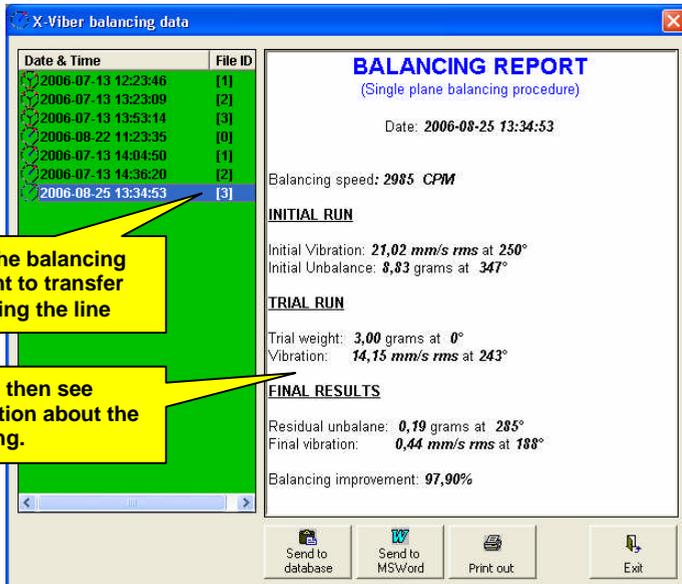
Select the “**Communication**” menu in the X-VIBER Instrument

Start the X-TREND software and select the command “**Transfer / X-VIBER**”.

Click on the line “**Show Balancing**” on the lower part of the virtual “X-VIBER” instrument



and a new window will appear:



Both “Single Plane Balancing” and “3-Point Balancing” files will appear in the list but with different icons.

A “Balancing report” will appear on the right side of the window.

Now you can

- send the contents of the “Balancing Report” to the X-TREND machine database. The destination will be a Notepad associated with the machine.
- send the “Balancing Report” to a MS Word document where you can edit the content.
- print the “Balancing Report” directly to the system printer.

