



CHECKING BLADE SPEED

Checking the blade speed is an essential part of routine hydraulic trowel maintenance. Due to hydraulic component wear, break in, and mechanical linkages the blade speed should be checked periodically. Excessive blade speed is the result of too much flow from the pump. Actuator or drive motor speed is directly related to hydraulic flow.

Checking the blade speed can be accomplished by using many instruments, for example;

1. Laser tachometer
2. Strobe tachometer
3. Optical tachometer

BLADE SPEED TEST PROCEDURE

NOTE: Before beginning test, make sure the drive motor safety solenoids are functioning correctly. The spiders should only rotate when an operator is in the operator's seat.

1. Perform this test on a dry concrete floor with the blades completely flat or at a non-pitched position.
2. Make sure the trowel blade speed limiter control knob located on the control panel is pushed all the way down.
3. Start the trowel and allow it to warm up to operating temperature.
4. Always begin by checking the left side spider assembly blade speed, as viewed from the operator's position.
5. Follow the tachometer's instructions for setting up the tachometer.
6. Have an experienced operator bring the engine to FULL RPM.
7. Depress the foot pedal to fully stroke the pumps. This will provide full fluid flow to the drive motors placing them at FULL speed.
8. With the trowel running at full speed, take the blade speed on the blade, blade arm or support ring per the instructions for the tachometer.
9. Record the blade speed and compared to the specifications below.
 - STX Rotor Speed 130 RPM \pm 5 RPM
 - HTX Rotor Speed 140RPM \pm 5RPM
10. Follow steps 5 ~ 9 for checking the right side spider assembly.

INTERPRETING THE RESULTS

- If both the left and right side spider assembly's are at the specified RPM within 3 RPM's of one another you have completed the check and no adjustment is required.
- If the left side spider is running at a higher or lower than specified RPM then adjustment is required.
- If the left side spider assembly is within the specified RPM and the right side spider assembly tests in excess of 3 RPM's high or lower than the left, you must adjust the right side spider assembly speed.

Refer to the technical document on "Adjusting the Blade Speed"