What is Claimed:

1. A ~~wire feed system for a~~ wire bonding machine, the wire bonding machine ~~feed system~~ comprising:

a wire supply; ~~and~~

an air guide for receiving a length of wire from the wire supply, the air guide having an air inlet for receiving a pressurized fluid; and

a bondhead including a wire tensioner,

the wire tensioner being separate from the air guide, the air guide being a stationary component of the wire bonding machine not travelling with the bondhead, the ~~wire feed system~~air guide being configured to apply a variable tension to the length of wire received by the air guide.

2. The wire ~~feed system~~bonding machine of claim 1 wherein the air guide defines a plurality of tension zones, each of the zones applying a different tension to the length of wire received by the air guide.

3. The wire bonding machine~~feed system~~ of claim 2 wherein the plurality of tension zones includes a high tension zone and a low tension zone.

4. The wire bonding machine~~feed system~~ of claim 2 further comprising a plurality of stop elements for defining a boundary of each of the plurality of tension zones.

5. The wire bonding machine~~feed system~~ of claim 4 wherein the stop elements includes at least one of a sensor, a capstan, and an air guide surface.

6. The wire bonding machine~~feed system~~ of claim 1 wherein the wire supply includes a wire spool.

7. The wire bonding machine~~feed system~~ of claim 6 wherein the wire spool is configured to rotate in order to move the length of wire from one of the tension zones to another of the tension zones.

8. The wire bonding machine~~feed system~~ of claim 7 wherein the wire spool is configured (1) to rotate clockwise to move the length of wire from one of a high tension zone and a low tension zone to the other of the high tension zone and the low tension zone, and (2) to rotate counterclockwise to move the length of wire from one of the high tension zone and the low tension zone to the other of the high tension zone and the low tension zone.

9. The wire bonding machine~~feed system~~ of claim 1 further comprising a diverter bar positioned between the wire supply and the air guide.

10. The wire bonding machine~~feed system~~ of claim 1 wherein the air inlet includes a plurality of air inlets for receiving the pressurized fluid.

11. The wire bonding machine~~feed system~~ of claim 10 wherein at least one of the air inlets is selectively operable such that a magnitude of the pressurized fluid received by the air guide varies based on which of the air inlets is selected to receive the pressurized fluid.

12. A method of operating a wire feed system of a wire bonding machine, the method comprising the steps of:

providing a length of wire to an air guide of the wire feed system, the air guide being a stationary component of the wire bonding machine;

providing a wire tensioner carried by a bondhead, the length of wire being received by the wire tensioner, and

varying a tension applied to at least a portion of the length of wire provided to the air guide.

13. The method of claim 12 wherein the varying step includes moving at least the portion of the length of wire from one of a plurality of tension zones of the air guide to another of the plurality of tension zones of the air guide.

14. The method of claim 13 wherein the moving step includes moving at least the portion of the length of wire from one of a high tension zone and a low tension zone to the other of the high tension zone and the low tension zone.

15. The method of claim 13 wherein the moving step includes moving at least the portion of the length of wire to be in contact with, or within a predetermined proximity of, at least one of a plurality of stop elements defining a boundary of at least one of the plurality of tension zones.

16. The method of claim 15 wherein the moving step includes moving at least the portion of the length of wire to be in contact with, or within a predetermined proximity of, at least one of a sensor, a capstan, and an air guide surface defining a boundary of at least one of the plurality of tension zones.

17. The method of claim 12 wherein the providing step includes providing the length of wire from a wire spool positioned in the wire feed system.