CLAIMS

1. A toner cartridge for use in an image forming device, comprising:

a housing having a reservoir for containing toner therein, the housing having a front, a rear, a first side, a second side, a top and a bottom, the housing having an exit port on the front of the housing in fluid communication with the reservoir to permit toner from the reservoir to pass out of the housing;

a first leg and a second leg each projecting from the bottom of the housing and extending primarily along a front-to-rear dimension of the housing to limit the side-to-side travel of the toner cartridge during insertion into the image forming device;

a first wing guide positioned on the first side of the housing and a second wing guide positioned on the second side of the housing substantially parallel to the first wing guide, each wing guide having a generally elongated body that extends primarily along the front-to-rear dimension of the housing;

a first stop extending from the first wing guide and a second stop extending from the second wing guide to limit the forward travel of the toner cartridge in the image forming device; and

a pair of rounded projections extending from a bottom surface of the first wing guide and a rounded projection extending from a bottom surface of the second wing guide that define contact points to control the vertical position of the toner cartridge in the image forming device.

2. The toner cartridge of claim 1, further comprising an engagement surface projecting from the top of the housing for receiving a hold down force from the image forming device, the engagement surface including an angled front surface that faces toward the front of the housing and an angled rear surface that faces toward the rear of the housing.

3. The toner cartridge of claim 2, wherein the engagement surface includes a first engagement surface near the first side of the housing and a second engagement surface near the second side of the housing.

4. The toner cartridge of claim 1, wherein a front portion of at least one of the first and second legs tapers forming a nose at a front tip thereof that is sized to engage a corresponding slot in the image forming device to more finely control the side-to-side travel of the toner cartridge in the image forming device.

5. The toner cartridge of claim 1, wherein a top surface of each of the first and second wing guides includes a front portion that is angled downward with respect to a rear portion of the respective wing guide to facilitate insertion of the toner cartridge into the image forming device.

6. The toner cartridge of claim 1, further comprising a second rounded projection extending from the bottom surface of the second wing guide, wherein the radii of each of the pair of rounded projections of the first wing guide and the first rounded projection of the second wing guide are the same and the radius of the second rounded projection of the second wing guide is smaller than the radii of the pair of rounded projections of the first wing guide and the first rounded projection of the second wing guide.

7. The toner cartridge of claim 1, wherein the first stop extends from a top surface of the first wing guide and the second stop extends from a top surface of the second wing guide.

8. The toner cartridge of claim 7, wherein the first stop is positioned closer to the rear of the housing than the pair of rounded projections extending from the bottom surface of the first wing guide and the second stop is positioned closer to the rear of the housing than the rounded projection extending from the bottom surface of the second wing guide.

9. A toner cartridge for use in an image forming device, comprising:

a housing having a reservoir for containing toner therein, the housing having a front, a rear, a first side, a second side, a top and a bottom, the housing having an exit port on the front of the housing in fluid communication with the reservoir to permit toner from the reservoir to pass out of the housing;

a first leg and a second leg each projecting from the bottom of the housing and extending along a front-to-rear dimension of the housing parallel to a direction of insertion of the toner cartridge into the image forming device, the first and second legs being spaced from each other on opposite sides of the housing to limit the side-to-side travel of the toner cartridge during insertion into the image forming device;

a first wing guide positioned on the first side of the housing and a second wing guide positioned on the second side of the housing substantially parallel to the first wing guide, each wing guide having a generally elongated body that extends along the front-to-rear dimension of the housing;

a first stop extending from the first wing guide and a second stop extending from the second wing guide to limit the forward travel of the toner cartridge in the image forming device; and

a pair of rounded projections extending from a bottom surface of the first wing guide and a rounded projection extending from a bottom surface of the second wing guide that collectively form three datum points defining a plane that controls the vertical position of the toner cartridge in the image forming device.

10. The toner cartridge of claim 9, further comprising a first engagement surface projecting from the top of the housing near the first side and a second engagement surface projecting from the top of the housing near the second side for receiving a hold down force from the image forming device, each of the first and second engagement surfaces including an angled front surface that faces toward the front of the housing and an angled rear surface that faces toward the rear of the housing.

11. The toner cartridge of claim 9, wherein a front portion of at least one of the first and second legs tapers forming a nose at a front tip thereof that is sized to engage a corresponding slot in the image forming device to more finely control the side-to-side travel of the toner cartridge in the image forming device.

12. The toner cartridge of claim 9, wherein a top surface of each of the first and second wing guides includes a front portion that is angled downward with respect to a rear portion of the respective wing guide to facilitate insertion of the toner cartridge into the image forming device.

13. The toner cartridge of claim 9, further comprising a second rounded projection extending from the bottom surface of the second wing guide, wherein the radii of each of the pair of rounded projections of the first wing guide and the first rounded projection of the second wing guide are the same and the radius of the second rounded projection of the second wing guide is smaller than the radii of the pair of rounded projections of the first wing guide and the first rounded projection of the second wing guide.

14. The toner cartridge of claim 9, wherein the first stop extends from a top surface of the first wing guide and the second stop extends from a top surface of the second wing guide.

15. The toner cartridge of claim 10, wherein the first stop is positioned closer to the rear of the housing than the pair of rounded projections extending from the bottom surface of the first wing guide and the second stop is positioned closer to the rear of the housing than the rounded projection extending from the bottom surface of the second wing guide.

CLAIMS

1. A toner cartridge (100) for use in an image forming device (22), comprising:
a housing (102) having a reservoir (104) for containing toner therein, the housing having a front (114), a rear (116), a first side (110), a second side (112), a top (106) and a bottom (108), the housing having an exit port (132) on the front (114) of the housing (102) in fluid communication with the reservoir (104) to permit toner from the reservoir (104) to pass out of the housing (102);
a first leg (146) and a second leg (148) each projecting from the bottom (108) of the housing (102) and extending primarily along a front-to-rear dimension of the housing (102) to limit the side-to-side travel of the toner cartridge (100) during insertion into the image forming device (22); and
a first alignment guide (160) positioned on the first side (110) of the housing (102) and a second alignment guide (170) positioned on the second side (112) of the housing (102) substantially parallel to the first alignment guide (160), each alignment guide (106, 170) extending primarily along the front-to-rear dimension of the housing (102), the first alignment guide (160) includes a pair of rounded contact points (166b, 166c) and the second alignment guide (170) includes a rounded contact point (176b), the rounded contact points (166b, 166c, 176b) of the first and second alignment guides (160, 170) are convex to the bottom and unobstructed from the bottom to control the vertical position of the toner cartridge (100) in the image forming device (22).

2. The toner cartridge (100) of claim 1, further comprising a first engagement surface (152) projecting to a topmost point of the housing (102) near the first side of (110) the housing (102) and a second engagement surface (154) projecting to the topmost point of the housing (102) near the second side (112) of the housing (102) for receiving a hold down force from the image forming device (22), each of the first and second engagement surfaces (152, 154) including an angled front surface (152a, 154a) that faces toward the front portion of the housing (102) and an angled rear surface (152b, 154b) that faces toward the rear portion of the housing (102).

3. The toner cartridge (100) of claim 1, wherein a front portion (180) of at least one of the first and second legs (146, 148) tapers forming a nose (182) at a front tip thereof that is

sized to engage a corresponding slot (218) in the image forming device (22) to more finely control the side-to-side travel of the toner cartridge (100) in the image forming device (22).

4. The toner cartridge (100) of claim 1, wherein each of the first alignment guide (160) and the second alignment guide (170) includes a generally elongated body (161, 171) that extends primarily along the front-to-rear dimension of the housing (102) .

5. The toner cartridge (100) of claim 4, wherein the top surface (162, 172) of each of the first and second alignment guides (160, 170) includes a front portion (162b, 172b) that is angled downward with respect to a rear portion (162a, 172a) of the respective alignment guide (160, 170) to facilitate insertion of the toner cartridge (100) into the image forming device (22).

6. The toner cartridge (100) of claim 4, further comprising a first stop (163) extending from a top surface (162) of the first alignment guide (160) and a second stop (173) extending from a top surface (172) of the second alignment guide (170) to limit the forward travel of the toner cartridge (100) in the image forming device (22).

7. The toner cartridge (100) of claim 6, wherein the first stop (163) is positioned closer to the rear (116) of the housing (102) than the pair of rounded contact points (166b, 166c) of the first alignment guide (160) and the second stop (173) is positioned closer to the rear (116) of the housing (102) than the rounded contact point (176b) of the second alignment guide (170).

8. The toner cartridge (400) of claim 1, further comprising a slot (490) on the front (414) of the housing (402) between the first and second legs (446, 448) that is sized to receive a corresponding projection (524) in the image forming device (22) to more finely control the side-to-side travel of the toner cartridge (100) in the image forming device (22).

9. The toner cartridge (400) of claim 8, wherein the slot (490) is formed by a gap between a pair of walls (492, 494) that extend forward from the front (414) of the housing (402).

10. A toner cartridge (100) for use in an image forming device (22), comprising:
a housing (102) having a reservoir (104) for containing toner therein, the housing having a front (114), a rear (116), a first side (110), a second side (112), a top (106) and a bottom (108), the housing having an exit port (132) on the front (114) of the housing (102) in fluid communication with the reservoir (104) to permit toner from the reservoir (104) to pass out of the housing (102);
a first leg (146) and a second leg (148) each projecting from the bottom (108) of the housing (102) and extending primarily along a front-to-rear dimension of the housing (102) to limit the side-to-side travel of the toner cartridge (100) during insertion into the image forming device (22);
a first alignment guide (160) positioned on a first side (110) of the housing (102) and a second alignment guide (170) positioned on a second side (112) of the housing (102) substantially parallel to the first alignment guide (160), each alignment guide (160, 170) extending primarily along the front-rear-dimension of the housing (102), the first alignment guide (160) includes a pair of rounded contact points (166b, 166c) and the second alignment guide (170) includes a rounded contact point (176b), the rounded contact points (166b, 166c, 176b) of the first and second alignment guides (160, 170) are convex to the bottom and unobstructed from the bottom, the rounded contact points (166b, 166c, 176b) of the first and second alignment guides (160, 170) collectively form three datum points defining a plane that controls the vertical position of the toner cartridge (100) in the image forming device (22).

11. The toner cartridge (100) of claim 10, further comprising a first engagement surface (152) projecting to a topmost point of the housing (102) near the first side (110) of the housing (102) and a second engagement surface (154) projecting to the topmost point of the housing (102) near the second side (112) of the housing (102) for receiving a hold down force from the image forming device (22), each of the first and second engagement surfaces (152, 154) including an angled front surface (152a, 154a) that faces toward the front portion of the housing (102) and an angled rear surface (152b, 154b) that faces toward the rear portion of the housing (102).

12. The toner cartridge (100) of claim 10, wherein a front portion (180) of at least one of the first and second legs (146) tapers forming a nose (182) at a front tip thereof that is sized to engage a corresponding slot (218) in the image forming (22) device to more finely control the side-to-side travel of the toner cartridge (100) in the image forming device (22).

13. The toner cartridge (100) of claim 10, wherein each of the first alignment guide (160) and the second alignment guide (170) includes a generally elongated body (161, 171) that extends primarily along the front-to-rear dimension of the housing (102).

14. The toner cartridge (100) of claim 13, wherein the top surface (162, 172) of each of the first and second alignment guides (160, 170) includes a front portion (162b, 172b) that is angled downward with respect to a rear portion (162a, 172a) of the respective alignment guide (160, 170) to facilitate insertion of the toner cartridge (100) into the image forming device (22).

15. The toner cartridge (100) of claim 13, further comprising a first stop (163) extending from a top surface (162) of the first alignment guide (160) and a second stop (173) extending from a top surface (172) of the second alignment guide (170) to limit the forward travel of the toner cartridge (100) in the image forming device (22).

16. The toner cartridge (100) of claim 15, wherein the first stop (163) is positioned closer to the rear (116) of the housing (102) than the pair of rounded contact points (166b, 166c) of the first alignment guide (160) and the second stop (173) is positioned closer to the rear (116) of the housing (102) than the rounded contact point (176b) of the second alignment guide (170).

17. The toner cartridge (400) of claim 10, further comprising a slot (490) on the front (414) of the housing (402) between the first and second legs (446, 448) that is sized to receive a corresponding projection (524) in the image forming device (22) to more finely control the side-to-side travel of the toner cartridge (100) in the image forming device (22).

18. The toner cartridge (400) of claim 17, wherein the slot (490) is formed by a gap between a pair of walls (492, 494) that extend forward from the front (414) of the housing (402).