C L A I M S

1. An ammunition cartridge incorporating a projectile inserted in, and mechanically connected to a metal cartridge case assembly having an energetic propellant disposed in a combustion chamber;

wherein a base of the cartridge case assembly incorporates a base plug configured to incorporate a support plug fabricated from a fusible material that, when completely assembled, a sub-assembly of the ammunition cartridge is filled with the energetic propellant and fit with an energetic igniter or primer that seals the combustion chamber;

wherein the cartridge case assembly incorporates a cavity and mold allowing for injection of the fusible material forming the fusible support plug into the base of the cartridge, during the manufacturing process to fabricate the cartridge;

wherein the base includes at least one passage from the cavity to the exterior, the base plug is configured to be inserted into the cavity and to form an interface between the base plug and the base that surrounds the base plug, and the fusible material is configured to be injected at an elevated temperature, exceeding an ammunition storage temperature and below the temperature where the energetic propellant confined in the chamber auto-ignites, through said at least one passage into said interface and to solidify at an ambient temperature; and

wherein said fusible material loses strength and structural integrity of said fusible material at the elevated temperature such that, when the propellant or primer off-gasses or auto-

ignites, the base plug is ejected from the base of the cartridge, revealing a channel that allows igniting energetic materials to burn in an unpressurized state and vent gases to escape into an unconfined space.

2. The ammunition cartridge of claim 1, wherein the fusible material is a polymer.

3. The ammunition cartridge of claim 1, wherein the fusible material is a fusible metal.

4. The ammunition cartridge of claim 1, wherein the base plug is formed of a solid material having a strength at normal munition operating temperatures that is sufficient to maintain structural integrity through normal cartridge operating pressures of a feeding, firing, extraction and ejection cycle of the munition.

5. The ammunition cartridge of claim 1, wherein auto-ignition of the propellant vents gases from a void created by ejection of the base plug.

6. The ammunition cartridge of Claim 5, wherein the void, created by ejection of the base plug, allows the propellant to burn out in the unconfined space.

7. The ammunition cartridge of claim 1, wherein the fusible material forms an O-ring shape surrounding the base plug.

8. The ammunition cartridge of claim 7, wherein the fusible material surrounding the base plug further includes projection from the O-ring shape that extends radially outward into at least one passage in the base of the cartridge case, thereby retaining a physical connection of the base plug to the

cartridge case during ejection after firing and reducing an energy imparted on the ejected base plug.

9. The ammunition cartridge of claim 1, wherein an internal cavity is circular in shape; the base includes a plurality of passages extending radially outward from the internal cavity to the exterior; and wherein the fusible material includes a plurality of projections extending radially outward through said passages.

10. An ammunition package for multiple cartridge munitions having the base plug affixed with fusible material in accordance with claim 1, wherein said package incorporates packaging material that retains its form and strength at the elevated temperature and provides an undeterred vent path for release of pressure in the event the base plug is ejected.

11. An ammunition package containing multiple cartridges that incorporate the base vent retained by fusible material in accordance with claim 1, said package including a dunnage with a configuration allowing for unobstructed venting of the base of said multiple cartridges therein and incorporating a blow-out panel in a wall of the package that relieves any momentary pressurization within the package by breaking away and allowing gases to vent from a punctured panel into the atmosphere.

12. The ammunition package of claim 11, wherein the dunnage is selected so as not to melt and re-congeal or clog vented cartridges.

13. A method of manufacturing an ammunition cartridge comprised of a projectile inserted in, and mechanically connected to, a metal cartridge case having a propulsion chamber and a base, and an energetic propellant disposed in the propulsion chamber;

wherein the base has a central internal cavity that is provided with an ejectable, solid base plug in which is mounted an igniter with an energetic primer; and

wherein the base includes at least one passage from the internal cavity to the exterior;

said method comprising the steps of:

(a) inserting the solid base plug into said internal cavity of the base forming an interface between the base plug and the base that surrounds it;

(b) injecting a fusible material at an elevated temperature, exceeding an ammunition storage temperature and below the temperature where the energetic propellant confined in the chamber auto-ignites, through said at least one passage into said interface and allowing said fusible material to solidify at an ambient temperature; and

(c) mounting the igniter with the energetic primer in said base plug.

14. The method of claim 13, wherein the fusible material is a polymer.

15. The method of claim 13, wherein the fusible material is a fusible metal.