CLAIMS

What is claimed is:

1. A payload retrieval apparatus comprising:

a structure having an outwardly facing portion;

a payload support member adapted for having a payload positioned thereon;

one or more magnets or a metal positioned on or within the outwardly facing portion of the structure adapted to magnetically engage one or more magnets or a metal position on a payload retriever attached to a tether suspended from a UAV;

wherein the one or more magnets or the metal are positioned on a side of the payload retriever opposite from a side having a slot positioned above a hook or lip of the payload retriever:

wherein when the payload is positioned on the payload support member, the payload support member is movable to position a handle of the payload adjacent the one or more magnets or the metal on or within the outwardly facing portion of the structure and into the slot of the payload retriever with the hook or lip of the payload retriever extending through an aperture in the handle of the payload.

2. The payload retrieval apparatus of claim 1, wherein the outwardly facing portion of the structure comprises a substantially vertical wall.

3. The payload retrieval apparatus of claim 1, wherein the payload support member is positioned on one or more guide rails.

4. The payload retrieval apparatus of claim 1, wherein the payload support member further includes a chute adapted to guide a payload into position on the payload support member during delivery of a payload.

5. The payload retrieval apparatus of claim 1, wherein the structure includes an opening; and the payload support member extends at least partially into the opening when the payload support member is moved to position the handle of the payload adjacent the outwardly facing portion of the structure.

6. The payload retrieval apparatus of claim 1, wherein the payload support member includes angled side walls adapted for engagement with angled surfaces the payload to align the payload into a desired position on the payload support member.

7. A system for payload retrieval comprising:

a payload retrieval apparatus comprising:

a structure having an outwardly facing portion; a payload support member adapted for having a payload positioned thereon;

one or more magnets or a metal positioned on or within the outwardly facing portion of the structure magnetically engaged with one or more magnets or a metal positioned on a payload retriever attached to a tether suspended from a UAV, the payload retriever having a slot positioned above a hook or lip of the payload retriever;

wherein when the payload is positioned on the payload support member, the payload support member is movable to position a handle of the payload into the slot of the payload retriever with the hook or lip of the payload retriever extending through an aperture in the handle of the payload.

8. The system of claim 7, wherein one or more magnets are positioned on or within the outwardly facing portion of the structure magnetically engaged to a metal positioned on the payload retriever.

9. The system of claim 7, wherein the hook or lip of the payload retriever faces in the same direction as the outwardly facing portion of the payload retrieval apparatus when magnetically engaged thereto.

10. The system of claim 7, wherein a plurality of magnets are positioned on the outwardly facing portion of the structure, and a plurality of magnets are positioned on the payload retrieval apparatus.

11. The system of claim 7, wherein the handle of the payload is flexible and is adapted to flex when the handle is moved into engagement with the payload retriever.

12. The system of claim 7, wherein the structure includes an opening; and the payload support member extends at least partially into the opening when the payload support member is moved to position the handle of the payload within the slot of the payload retriever.

13. The system of claim 7, wherein the nagnetic engagement is adapted to be broken when the payload retriever is moved upwardly by the UAV.

14. A method of retrieving a payload with a UAV, comprising the steps of;

providing a payload retrieval apparatus having a structure having an outwardly facing portion, a payload support member, and one or more magnets or metal positioned on or within the outwardly facing portion of the structure;

positioning a payload having a handle with an aperture therein on the payload support member;

lowering a payload retriever attached to a tether suspended from the UAV, the payload retriever having one or more magnets or a metal adapted to magnetic engagement with the one or more magnets or the metal positioned on or within the outwardly facing portion of the structure;

causing the payload retriever to come into magnetic engagement with the outwardly facing portion of the structure;

moving the payload support member position the handle of the payload into a slot on the payload retriever with the hook or lip of the payload retriever extending through the aperture in the handle of the payload;

causing the payload retriever to move out of magnetic engagement with the outwardly facing portion of the structure; and

causing the payload retriever to move towards the UAV with the payload suspended from the payload retriever.

15. The method of claim 14, wherein one or more magnets are positioned on or within the outwardly facing portion of the structure adapted for magnetic engagement to a metal positioned on the payload retriever.

16. The method of claim 14, wherein the hook or lip of the payload retriever faces towards the handle of the payload when the payload retriever is magnetically engaged to the outwardly facing portion of the structure.

17. The method of clam 14, wherein a plurality of magnets are positioned on the outwardly facing portion of the structure, and a plurality of magnets are positioned on the payload retrieval apparatus.

18. The method of claim 14, wherein the payload support member includes angled side walls adapted for engagement with angled surfaces of the payload to align the payload into a desired position on the payload support member.

19. The method of claim 14, wherein the structure includes an opening; and the payload extends at least partially into the opening when the payload support member is moved to position the handle of the payload within the slot of the payload retriever.

20. The method of claim 14, wherein the handle of the payload is flexible, and the handle flexes as it moves into the slot of the payload retriever.