ABSTRACT

A horizontally arrayed collection of receptors, each suited to hold an individual golf club in inverted position, is horizontally mountable to the unpredictably angled canopy frame bar of a golf cart. A mounting clamp receives an angled frame bar between two studs that are spaced wider apart than the thickness of the bar, so that the array can be twisted to horizontal position with the frame bar still between the studs. Then the clamp compresses the frame bar to permanently secure the array at the desired orientation. The receptors provide a vertical bore with compound profile for holding the individual golf clubs in vertical position. A top end profile defines a tapered cavity matching the taper of a club ferrule, while a bottom end profile is flared similarly to an inverted club shaft. Bosses extending into a gate area of each receptor assist in preventing loss of a club during cart travel by creating a snap-in function that retains the clubs in the receptors.
GOLF CLUB HOLDER FOR GOLF CARTS

BACKGROUND OF THE INVENTION

[0001] 1. Field of the invention

[0002] The invention generally relates to supports and racks. More specifically, the invention relates to supports and racks for a special article that includes an elongated portion, especially a golf club. In another aspect, the invention generally relates to games using a tangible projectile, especially to the game of golf. More specifically, the invention relates to a club support. The invention is a clip that is uniquely adapted to be mounted on a golf cart and to carry a plurality of golf clubs in a manner that mains the clubs in secure position despite the sometimes rough or bouncy ride of a golf cart.


[0004] The vast popularity of golf causes golf courses to be quite busy. Players try to maintain efficiency in their game, so that the rate of play can continue without undue slowing. Toward this end, many players ride on powered golf carts to carry them hole-to-hole and advance themselves and their party along the various stages of play at each hole. Golf carts can save considerable time and also work. The players place their golf bags on the cart, and the cart performs the majority of work in toting the bags from position to position. However, golf carts travel the edges of the holes, usually on an established path. The cart and, hence, the golf bags are not allowed to travel on the main body of fairways and greens.

[0005] Managing golf clubs at the golf cart can present a needless delay. Golf carts uniformly provide a rear bag well for carrying club bags. A player often carries a large number of golf clubs in his bag, together with other accessories. Golf bags often include organizer tubes to separate the clubs, and sock-like head cover often is placed over certain clubs. When a player is selecting a club from the bag or returning a club to the bag, sorting through the available clubs, dealing with head covers, or returning a club to its specified location may take enough time to delay the entire party. At various stages of play at each hole, several members of the party may be selecting, returning, or exchanging clubs simultaneously at the club bags on the rear of the cart, such that the players interfere with and delay each other. These causes of delay may last for only brief times, but they can accumulate over an entire game to a substantial delay.

[0006] A chief cause of congestion is that substantially all known golf cart groups the club bags at a rear bag well of the golf cart. Carrying golf clubs in another location on a cart presents problems of interference between clubs and the cart canopy as clubs are lifted for insertion or removal from the club bag.

[0007] Patent art includes several known clips for golf clubs. As an example, U.S. Pat. No. 6,368,840 to Mulholland et al. shows a holder that attaches to an umbrella and to several golf clubs so that the umbrella can protect the golf clubs during rain. While effective for its purpose, such a device is of no help in managing clubs at a golf cart. U.S. Pat. No. 5,820,479 to Chine et al. shows a golf club holder that can be staked into the ground, allowing the ready placement of several clubs near the player’s location. Likewise, this holder is not a solution to club management at the golf cart.

[0008] It would be desirable for players to have a limited number of preselected clubs in an extremely convenient and available location removed from the rear of the golf cart. The clubs should be carried in such a way that a club can be taken rapidly from the cart or rapidly returned to it.

[0009] Further, it would be desirable for the available location to carry the preselected clubs when the cart is in motion, so that the preselected clubs need not be returned to the golf bag until the game is over.

[0010] It would be desirable for a golf club holder to be mountable near the front of a golf cart and allow the rapid exchange of golf clubs in the limited headroom under a cart canopy.

[0011] The present invention addresses these needs by providing a holder that has unique adaptation to a powered golf cart. The clip provides expedited management of golf clubs at a powered golf cart.

[0012] To achieve the foregoing and other objects and in accordance with the purpose of the present invention, as embodied and broadly described herein, the method and apparatus of this invention may comprise the following.

BRIEF SUMMARY OF THE INVENTION

[0013] Against the described background, it is therefore a general object of the invention to provide a multi-club holder that displays the carried clubs in a linear array of inverted, parallel clubs. One or more such arrays are mountable on a golf cart, such as to the canopy frame bars. Players may locate their most commonly used clubs in the carrier, allowing the player to select, exchange, and return his clubs to the carrier rather than to a golf bag in the typical rear bag well of a golf cart. The carrier relieves congestion and delay at the bag well, while reliably carrying the clubs and presenting them for ready selection.

[0014] According to the invention, a golf club holder for golf carts is formed of a backing wall that carries a plurality of sidewalls on a first major face of the backing wall. The sidewalls are arranged in an array of substantially parallel pairs. Together with the backing wall, each pair of sidewalls defines an upright, elongated golf club receptacle with an open top end, an open bottom end, and a narrow waist between them. An open front gate area is opposite from the backing wall. The open front gate area is sized to receive and retain a single laterally inserted golf club. The holder includes a device for engaging a golf cart to mount the holder.

[0015] In the golf club holder, the second and opposite face of the backing wall carries the device for engaging a golf cart. Further, the holder is adapted for horizontal mounting on a diagonally extending golf cart member. The width or width range of the diagonal member is a first predetermined distance. The device for engaging the golf cart includes a pair of longitudinally elongated studs that extend from the opposite major face of the backing wall. A second predetermined distance that is substantially greater than the first predetermined distance separates the studs. As a result, the diagonally extending golf cart member is locatable between the studs while the golf club holder is substantially horizontal. A clamp bar is suitably engaged with the studs for movement in the longitudinal direction of the studs. A directional fastener is engaged with each stud for pressing the clamp bar toward the backing wall to clamp the diagonally extending golf cart member between the studs under clamping pressure between the clamp bar and backing wall. As a result, the golf club holder is mounted in substantially horizontal position on the diagonally extending golf cart member.

[0016] The device for engaging a golf cart includes a pair of longitudinally elongated studs that extend from a second and opposite major face of the backing wall. A clamp bar engages the studs such that it can move in the longitudinal direction of the studs. A directional fastener engages with each stud for...
pressing the clamp bar toward the backing wall. Thus, a portion of the golf cart that is locatable between the studs receives clamping pressure between the clamp bar and backing wall.

[0017] An elongated receptor for inverted golf clubs has a central bore with a compound configuration that includes an open top, an open bottom, with a narrower waist between them. The bore tapers from a wider top end to the narrower waist for receiving a golf club ferrule of tapering profile. A bottom portion of the central bore flares from below the narrower waist to the bottom end of the receptor bore. Each of the sidewalls defines a boss that extends from the sidewall into a portion of the open front gate area, such that each gate area has a boss at each side of the gate area. The bosses resist the exit of a golf club shaft through the gate area. The bosses are located at the approximate height of the narrower waist.

[0018] According to another aspect of the invention, a golf cart and a golf club carrier are combined. The golf cart is formed of a vehicle base, a canopy, and a supporting frame carrying the canopy from the vehicle base. The golf club carrier is formed of an array of longitudinally upright receptors joined by a common backing wall. Each receptor defines a bore tapering downward from an open top end to a narrower central waist, then flaring downward to open bottom end. An open front gate area is opposite from the backing wall. The open front gate area is sized to receive a single laterally inserted golf club shaft with ferrule at the club head, in inverted position, such that the shaft can be lowered to engage the ferrule in the top of the receptor bore. A device attaches the golf club carrier to the canopy-supporting frame.

[0019] The golf cart vehicle base establishes a horizontal plane of operation. The device for attaching the golf club carrier to the supporting base further includes a device for variably adjusting the golf club carrier to the horizontal plane of operation.

[0020] The accompanying drawings, which are incorporated in and form a part of the specification, illustrate preferred embodiments of the present invention, and together with the description, serve to explain the principles of the invention. In the drawings:

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0021] FIG. 1 is a front elevational view of the golf club holder with fastener is partially open position.

[0022] FIG. 2 is a top rear isometric view of the golf club holder of FIG. 1.

[0023] FIG. 3 is a top plan view of the golf club holder of FIG. 1.

[0024] FIG. 4 is a side elevational view in partial cross-section taken along the plane of line 4-4 of FIG. 3.

[0025] FIG. 5 is a side view of a golf cart with a plurality of the golf club holders carried at various locations.

[0026] FIG. 6 is a rear fragmentary view of the golf club clip mounted on a golf cart.

DETAILED DESCRIPTION OF THE INVENTION

[0027] The invention is an apparatus for managing golf clubs and especially for expediting the selection, exchange, and return of golf clubs at a powered golf cart. With reference to FIGS. 1-3, the apparatus 10 is a golf club holder, clip, or compound clip arranged as an array of upright receptors 12, each suited to engage and temporarily retain a golf club. An upright, common backing wall 14 carries the array on a first major face and unites the array into a unitary whole.

[0028] The backing wall carries on a second and opposite major face a means 16 for engaging a golf cart 18, FIG. 5. Such means includes a pressure fastener 16 that attaches to a golf cart 18 in what may be considered a universal manner. For example, the pressure fastener receives a longitudinally elongated member 20 of the golf cart 18 in two-dimensional surrounding containment. Pressure is applied along one vector or one dimension of the containment while the perpendicular vector or dimension allows a diagonal engagement with the elongated mounting member 20, which is oriented so as to be sustainable in diagonal engagement regardless of the applied pressure. The capacity to adjust the holder to horizontal position, even when a mounting member is not vertical, is an important feature.

[0029] As best seen in FIG. 3, the apparatus 10 is formed of a plurality of receptors 12 defining receptor bores. The preferred number of receptors is seven, arranged in laterally parallel, spaced apart orientation. A pair of resilient, right and left sidewalls 22 defines each receptor. The sidewalks 22 are substantially vertical and extend between a front and a rear of the receptor. At the front, the sidewalks slightly converge and create an opening or gate area between them, which enables an entry function for laterally entering a golf club shaft into the receptor. As best seen in FIGS. 1-3, each pair of sidewalks is spaced from the neighboring pair by a small gap, allowing the sidewalks to have independent resilient action. Thus, a receptor 12 at an end of the array has resilient operation similar to a receptor 12 in the middle of the array. The rear of each receptor 12 is a closed wall between the right and left sidewalks 22. Common backing wall 14 may define the rear wall.

[0030] Each receptor bore is contoured with a compound profile. With particular reference to FIG. 4, the profile includes a wide top end 24 and a wide bottom end 26. Between the two ends, the receptor bore tapers to a narrower waist 27 near the middle of the receptor height. The waist 27 may be located at a mold parting line, and this parting line may be slightly above the midpoint of the receptor height.

[0031] The gate or entry lips 28 provide a common longitudinal entry slot. The width of the slot is suitable to receive the narrowest portion of a golf club shaft without parting, or alternatively, to require only slight parting of sidewalks 22 as the narrowest part of a club shaft passes through the gate. A suitable gate width is about three-eighths inch.

[0032] Once a golf club shaft has passed the gate, it enters into a wider, interior longitudinal bore having the compound profile ending in wide end openings 24, 26. The bore tapers downward from a wider top open end 24 to a narrower waist 27. From the narrow waist 27, the bore flares downward to the normal opening 26. The flare is modest, such as one degree at each sidewall or two degrees overall. This flare is similar to the normal profile of a golf club shaft in inverted or head-up position.

[0033] The receptor bore is contoured to maintain a golf club in stable position while a golf cart is traveling. Representative dimensions of the holder 10 and the receptor bore demonstrate the relationship to a typical golf club shaft and ferrule. Golf clubs may vary over a workable size range but tend to share common features. Golf club shafts taper from a broader end at the grip to a narrower end at the ferrule. In turn, the ferrule widens from the shaft to the club head. A golf club shaft may have a typical diameter of about nine-sixteenths...
inch near the grip, decreasing to a diameter of about five-sixteenths inch at the ferrule. The ferrule has a shoulder where the shaft enters the ferrule. At the shoulder, the ferrule has a diameter of about seven-sixteenths inch. The ferrule widens to about one-half inch at the club head, over a length of about three-quarters inch.

The gate width of about three-eighths inch would require minimal or no flexure to admit a shaft adjacent the ferrule. The holder 10 is intended to receive golf clubs in head-up, grip-down position. As inserted into the holder 10, the golf club is positioned with the ferrule slightly above the open top end 24 of the receptor bore, so that the narrow portion of the shaft addresses the gate. The club is inserted through the gate and released, allowing a portion of the ferrule to drop into the tapered receptor bore. Preferably, the ferrule bottoms against the tapered bore surface below end 24. Thus, the club is supported in the bore. The club is removed by raising it slightly, to free the ferrule from the bore. Then the club is brought out through the gate at the narrow end of the shaft, encountering little or no opposition from entry lips 28.

The slight taper of the receptor bore from end 24 conforms to the approximate existing taper of a golf club ferrule. The open top end 24 is of a width or diameter of about one-half inch so as to match or approximate the widest part of a ferrule. The club head may have a wider shoulder at the ferrule, such that in some instances the club head might serve as a stop against the top of the holder 10. If the ferrule is slightly wider than the open top end 24, then the ferrule will extend above the holder, with the club head slightly elevated.

Empirical testing has discovered that a traveling golf cart can impart considerable vertical bounce to its carried load. Golf clubs held in receptors that merely fit the shafts might be considerably shaken or bounced. In order to secure the clubs against loss, the receptor bore extends below narrow waist 27 and is configured to buffer club movement. For example, the flaring lower bore may have a width of one-half inch at end 26, which contains the motion of a club shaft.

The entry lips 28 provide an additional stop that cooperates with the compound bore profile. The additional stop is a full or partial collar at narrow waist 27. The collar may constitute a boss 30 on each side of the gate slot, on lips 28 at narrow waist 27. The holder 10 has a preferred height of about two inches. The height of the top bore profile from end 24 is slightly less than one-half, such as about three-quarters inch. Thus, the height of the bottom profile from end 26 is about one and one-quarter inch. Most practically, the bosses 30 are on a parting line of a plastic mold for producing the holder 10. The parting line typically will be at the tapered waist 27, placing the bosses about three-quarters of an inch from the top edge of the holder 10.

The pressure fastener 16 is formed of cooperating structures for mounting the array of receptors 12 on a golf cart. As best seen in FIGS. 2-4, the pressure fastener 16 includes a pair of right and left studs 32 extending normally from the rear face of backing wall 14. Like the bosses 30, the studs 32 are formed at the parting line of the plastic mold, thus placing the studs at about the same height as the bosses.

The studs are spaced apart by a preselected distance that is greater than the width or diameter of the intended mounting element 20 of a golf cart. As required, the holder 10 may be offered in a variety of sizes, as appropriate to fit various mounting elements. However, empirical examination of many existing golf carts shows that a suitable mounting member 20 can be found with width of less than one inch and more commonly less than three-quarters of an inch. The spacing between studs 32 is approximately double the thickness of such mounting member 20, or about one and one-half inches.

The studs are long enough to receive a mounting element 20 almost as thick as the preselected spacing between the studs. With clamp bar 34 in place on the studs, the distance between backing wall 14 and the clamp bar 34 is about one and one-quarter inches. Thus, the effective size of the reception area within the pressure fastener 16 is about one and one-half by one and one-quarter inches. This size of the two-dimensional surrounding containment of the preferred pressure clamp allows the holder 10 to attach to golf cart canopy frame bars 20 with almost universal application.

As best seen in FIG. 2, the studs 32 carry a clamp bar 34 engaged for movement in the longitudinal dimension of the studs. A through-hole in clamp bar 34 receives one stud 34, while a slot or channel 36 allows the clamp bar 34 to pivot closed on the second stud. Optionally, the studs are threaded over at least a portion of their length. Directional fasteners engage the studs and press the clamp bar. As a preferred example, a pair of threaded fasteners such as wing nuts 38 engages the studs to compress the clamp bar 34 against a mounting member 20. The backing wall 14 proves a reaction surface that cooperates with the clamp bar and studs to complete the pressure fastener 16. Other types of fasteners may substitute for the wing nuts and are commonly used on plastic studs. For example, various types of one-way sliding fasteners or speed nuts are practical substitutes for the wing nuts 38. For certain types of known fasteners, threading on studs 34 is undesirable or unnecessary. The studs may be configured as required for the chosen type of directional fastener.

In use, a golf cart 18, best shown in FIG. 5, carries one or more holders 10. As typical of many golf carts, the cart 18 provides a vehicle base with an area for carrying golfers. The cart may include one or more seats, controls for operating the cart, and a golf bag well at the rear of the vehicle base. The golf bag well holds the golf bags 40 of all players using the cart, which typically will be from two to four players. In addition to the vehicle base, most golf carts have a canopy 42 for protection from sun and weather. Typically front and rear frame bars 20 support canopy 42 from the vehicle base.

A vehicle base typically is designed to operate on an expected horizontal plane of operation. The frame bars 20 extend upward from the vehicle base, but are not necessarily vertical even if the vehicle base is operating on a horizontal surface. The holder mounts to the frame bars 20 with sufficient available adjustment to ensure the holder is horizontal, such that the receptors are vertical, and golf clubs received in the receptors will be vertical at least when the vehicle base is operation on a horizontal surface.

As discussed above, the concentration of golf bags 40 at the rear well creates crowded conditions when players are selecting, exchanging, or returning golf clubs to the bags. The holders 10 relieve the crowded conditions by their preferred locations. The holders 10 are well suited to mount on the canopy frame bars 20, conveniently allowing the placement of from one to four holders 10 per cart. Each suitably sized frame bar can carry at least one holder 10, which, in turn, can carry a plurality of golf clubs 44.

Although a holder 10 can be carried on any suitably sized canopy frame bar 20, the front frame bars are preferred locations. Holders on front frame bars are easily reached as golfers are embarking or debarking the golf cart. The golfers readily can watch their clubs in the front positions to ensure...
that no club is lost during travel. Holders on front frame bars have the added advantage of being distant from the golf bags at the rear of the cart, reducing congestion at the rear. It may be desirable for each golfer to have his own holder 10.

[0046] As best seen in FIG. 6, the holder 10 should be mounted in a horizontal position with respect to the golf cart. Frame bars 20 seldom are true vertical. The exact angle of the frame bars varies considerably according to various models of golf cart. The pressure fastener 16 is configured to receive the mounting bar 20 at whatever angle is present and to allow the holder to be tilted until horizontal. Therefore the pressure fastener is tightened to capture the mounting bar 20 at the necessary angle. The holder 10 preferably is formed of plastic, which allows the backing wall 14, clamp bar 34, and studs 32 to deflect under pressure and to better acquire a fixed and stable horizontal mounting position on member 20. With the holder 10 in an approximately horizontal position, the golf clubs 44 in a holder are stable and ride well with a moving cart 18.

[0047] The golf cart 18 of FIG. 5 itself represents an improvement in equipment for managing club selection, exchange, and return. The makers of golf carts attempt to provide an efficient device that aids the play of golf. Toward this end, golf carts are equipped with convenience items such as scorecard holder, ball holders, pencil holders, drink holders, and even umbrella holders. However, the golf clubs remain relegated to the bag well at the rear of the cart. It is an improvement in golf carts to provide one or more holders, similar to holder 10, to separately carry golf clubs. Holders or clip arrays 10 supplied by the manufacturer may take considerably different form and may not need the universal attachment suggested for holder 10. Indeed, the attachment may be integrated into the specific cart design. The canopy frame bars 20 remains a desirable location for mounting holders of any design.

[0048] The ability of the holder 10 to carry golf clubs in inverted position is a considerable advantage over the use of a golf bag. Clubs are inserted and removed from the holder 10 with minimal vertical travel. For example, lifting a club by as little as three-quarters inch is sufficient to remove a club from the holder. Such limited need for headroom avoids conflict between a club and the cart canopy and allows the holder to be used at the front of the cart. In contrast, some golf clubs are about four feet in length and could require almost this distance in headroom over a golf bag. Due to this problem, golf carts are designed to relegate club bags to the rear bag well, where the canopy does not extend. The need for headroom over golf bags inherently creates the typical congestion at the rear of a golf cart. The holder 10 provides improved club handling, reduces the typical congestion at the bag well, and helps the golfer

[0049] The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be regarded as falling within the scope of the invention as defined by the claims that follow.

What is claimed is:

1. A golf club holder for golf carts, suited to hold golf clubs of a type having a shaft with a tapered ferrule juxtaposed to a shaft end, comprising:

a backing wall carrying on a first major face thereof a plurality of sidewalls arranged in an array of substantially parallel pairs, each pair defining with said backing wall an upright, elongated golf club receptor having a downward tapering bore and an open front gate area opposite from the backing wall;

wherein said open front gate area is suitably sized to receive a single laterally inserted golf club shaft, and said downward tapering receptor bore is suitably sized to receive and support a vertically inserted golf club ferrule; and

means for engaging a golf cart.

2. The golf club holder for golf carts as in claim 1, wherein:

said backing wall carries said means for engaging a golf cart on a second and opposite major face thereof.

3. The golf club holder for golf carts as in claim 1, adapted for horizontal mounting on a diagonally extending golf cart member having a width of a first predetermined distance, wherein said means for engaging a golf cart comprises:

a pair of longitudinally elongated studs extending from a second and opposite major face of said backing wall, wherein said studs are separated by a second predetermined distance that is substantially greater than said first predetermined width of said diagonally extending golf cart member, such that the diagonally extending golf cart member is locatable between the studs while the golf club holder is substantially horizontal;

a clamp bar engaged with said studs for movement in the longitudinal direction of the studs; and

a directional fastener engaged with each stud for pressing the clamp bar toward the backing wall to clamp the diagonally extending golf cart member between the studs under clamping pressure between the clamp bar and backing wall, thereby mounting the golf club holder in substantially horizontal position on the diagonally extending golf cart member.

4. The golf club holder for golf carts as in claim 1, wherein:

said means for engaging a golf cart comprises:

a pair of longitudinally elongated studs extending from a second and opposite major face of said backing wall;

a clamp bar engaged with said studs for movement in the longitudinal direction of the studs; and

a directional fastener engaged with each stud for pressing the clamp bar toward the backing wall to clamp a portion of a golf cart locatable between the studs under clamping pressure between the clamp bar and backing wall.

5. The golf club holder for golf carts of claim 1, wherein:

said elongated golf club receptor defines a central bore of compound configuration having both a top end profile and a bottom end profile;

said top end profile is said tapering bore from a wider top end to a narrower waist for receiving a golf club ferrule; and

said bottom end profile is a downward flaring bore for buffering a golf club shaft in the receptor.

6. The golf club holder for golf carts as in claim 5, wherein:

each of said sidewalls defines a boss extending from the sidewall into a portion of said open front gate area, such that each gate area has a boss at each side thereof for resisting exit of a golf club shaft through the gate area;

and

said top end profile and bottom end profile meet at said narrow waist near the center of the receptor height; and
said bosses are located at the approximate height of the narrow waist.

7. In combination, a golf cart and a golf club holder adapted to hold a golf club of a type having a shaft, a head, and a tapered ferrule at the junction of the shaft and head, wherein:
   said golf cart comprises a vehicle base, a canopy positioned over the vehicle base, and a supporting frame carrying said canopy from the vehicle base and at least partially covered by the canopy;
   an attaching means joins said golf club holder to said supporting frame in a position where the golf club holder is under the canopy;
   the golf club holder comprises a longitudinally upright receptor defining a bore with open top and bottom ends and sized to receive a golf club shaft, wherein an edge of the receptor is open, allowing the lateral insertion of a golf club shaft into said bore, and the bore tapers downwardly from the open top end thereof in a configuration suited to engage and retain a tapered ferrule of a golf club in inverted position;

whereby a golf club is insertable into the holder in inverted position with limited required vertical motion such that interference with the canopy is avoided, by laterally inserting a portion of the shaft near the ferrule such that the ferrule is above the holder, and lowering the golf club to engage and retain the ferrule in the holder.

8. The combination of a golf cart and a golf club holder according to claim 7, wherein:
   said golf club holder comprises a plurality of said receptors joined by a common backing wall, said open edge of each receptor is an open front gate area opposite from the backing wall.

9. The combination of golf cart and a golf club holder according to claim 7, wherein:
   said golf cart vehicle base establishes a horizontal plane of operation;
   said attaching means comprises means for variably adjusting the golf club carrier to the horizontal plane of operation.

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