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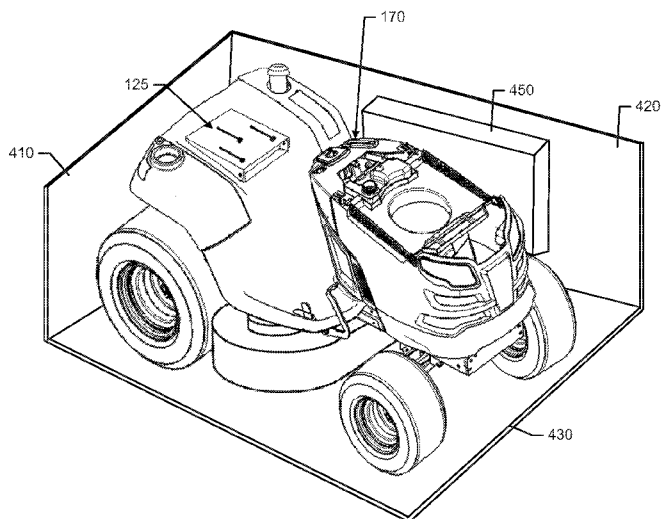


FIG. 7

(57) Abstract: A riding yard maintenance vehicle may include a frame to which wheels of the riding yard maintenance vehicle are attachable, a cutting deck operably coupled to the frame, a steering assembly operably coupled to at least some of the wheels to enable steering of the riding yard maintenance vehicle, a seat base disposed rearward relative to the steering assembly to support a seat when the seat is installed, and a multi-piece dash and hood assembly. The riding yard maintenance vehicle may have a fully assembled height of greater than about 34.5 inches. The multi-piece dash and hood assembly may include a split dash and a split hood that enable portions of the split dash and split hood to be removed to render a height of the riding yard maintenance vehicle less than about 34.5 inches.



MULTI-PIECE HOOD ASSEMBLY AND SHIPPING
PRODUCT INCORPORATING THE SAME

TECHNICAL FIELD

5 Example embodiments generally relate to yard maintenance vehicles and, more particularly, relate to a yard maintenance vehicle having a multi-piece hood assembly to facilitate shipping in a smaller package, and a shipping product incorporating the same.

BACKGROUND

10 Yard maintenance tasks are commonly performed using various tools and/or machines that are configured for the performance of corresponding specific tasks. Certain tasks, like grass cutting, are typically performed by lawn mowers. Lawn mowers themselves may have many different configurations to support the needs and budgets of consumers. Walk-behind lawn mowers are typically compact, have comparatively small
15 engines and are relatively inexpensive. Meanwhile, at the other end of the spectrum, riding lawn mowers, such as lawn tractors, can be quite large. Riding lawn mowers can sometimes also be configured with various functional accessories (e.g., trailers, tillers and/or the like) in addition to grass cutting components. Riding lawn mowers provide the convenience of a riding vehicle as well as a typically larger cutting deck as compared to a
20 walk-behind model.

When selecting a riding lawn mower, consumer preferences as to style and cost often play a large role. However, some larger machines may, by virtue of the larger platform they present, provide additional functionality that smaller machines cannot provide. The larger machines may therefore also have higher profit margins than smaller
25 machines because of the extra features that can be provided thereon. Thus, larger ride on lawn mowers may be desirable products for manufacturers to produce and sell, and for customers to own and use. However, one potential drawback to larger machines may be that the larger size also requires that larger individual shipping units must be used to ship them. The use of larger individual shipping units may mean that fewer such units can be
30 fit onto a standard shipping container. Thus, a given number of larger units may cost more to ship than an equal number of smaller units.

BRIEF SUMMARY OF SOME EXAMPLES

Accordingly, in order to reduce the shipping costs associated with bringing larger machines to market, some example embodiments may provide for a riding lawn care vehicle assembly that can be shipped in a partially assembled state that is both small
5 enough to significantly reduce the shipping costs, while also being large enough to supply the customer with the looks, features, and functions that accompany larger and perhaps also higher end tractors. The unit may also be designed to be relatively easy to assembly for the retailer. Shipping costs may therefore be reduced and the assembly at the retailer end may still be accomplished without issue.

10 A riding yard maintenance vehicle of an example embodiment is provided. The vehicle may include a frame to which wheels of the riding yard maintenance vehicle are attachable, a cutting deck operably coupled to the frame, a steering assembly operably coupled to at least some of the wheels to enable steering of the riding yard maintenance vehicle, a seat base disposed rearward relative to the steering assembly to support a seat
15 when the seat is installed, and a multi-piece dash and hood assembly. The riding yard maintenance vehicle may have a fully assembled height of greater than about 34.5 inches. The multi-piece dash and hood assembly may include a split dash and a split hood that enable portions of the split dash and split hood to be removed to render a height of the riding yard maintenance vehicle less than about 34.5 inches.

20 A method of shipping a riding yard maintenance vehicle is also provided. The method may include partially assembling a riding yard maintenance vehicle having a fully assembled height of greater than about 34.5 inches as a shipping unit including a split dash and a split hood, the shipping unit being assembled to a height of less than about 34.5 inches including a first portion of the split dash and a first portion of the split hood with a
25 second portion of the split dash and a second portion of the split hood removed. The method may further include providing the shipping unit into a shipping product comprising a shipping crate having a height sufficient to allow three shipping products to be stacked within a standard shipping container. The method may further include shipping the shipping product to a destination at which the shipping unit can be fully assembled.

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BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

FIG. 1 illustrates a side view of a riding yard maintenance vehicle according to an example embodiment;

FIG. 2 illustrates a perspective view of a fully assembled riding yard maintenance vehicle with a multi-piece dash and hood assembly according to an example embodiment;

5 FIG. 3 illustrates a perspective view of the riding yard maintenance vehicle with a multi-piece dash and hood assembly prepared for shipping according to an example embodiment;

FIG. 4, which includes FIGS. 4A and 4B, illustrates a more detailed view of the quick connection assembly components that facilitate simple and easy assembly of
10 portions of the multi-piece dash and hood assembly according to an example embodiment;

FIG. 5, which includes FIGS. 5A, 5B and 5C, illustrates a perspective view looking up into an underside of an upper hood portion of a split hood according to an example embodiment;

FIG. 6 illustrates a perspective view looking up into an underside of an upper dash
15 portion to illustrate connections between the upper dash portion and a dash base of a split hood according to an example embodiment;

FIG. 7 illustrates an example of a shipping product incorporating a vehicle shipping unit according to an example embodiment; and

FIG. 8 illustrates a method of shipping a riding yard maintenance vehicle
20 according to an example embodiment.

DETAILED DESCRIPTION

Some example embodiments now will be described more fully hereinafter with reference to the accompanying drawings, in which some, but not all example embodiments
25 are shown. Indeed, the examples described and pictured herein should not be construed as being limiting as to the scope, applicability or configuration of the present disclosure. Rather, these example embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like reference numerals refer to like elements throughout. Furthermore, as used herein, the term “or” is to be interpreted as a logical operator that
30 results in true whenever one or more of its operands are true. As used herein, operable coupling should be understood to relate to direct or indirect connection that, in either case, enables functional interconnection of components that are operably coupled to each other.

Current lawn and garden tractors produced for the consumer market tend to fall into one of two different unit size distinctions based on freight container classifications.

Smaller unit sizes are called "three high" units because the units are of such size that they fit into containers that, when boxed for shipping, can be stacked three units high in a standard freight container. Larger unit sizes are called "two high" units because they can only fit two units high within the standard freight container.

5 Based on the standard freight container height (about 9 ft 6 in), for a three high stack to be possible, the three high units must have a height of no greater than about 34.5 inches. Thus, any model that ships with a height of greater than 34.5 inches would typically ship as a two high unit. A container filled with three high units can hold 50% more units than a container filled with two high units. Thus, it should be appreciated that
10 the ability to fit normally two high units into a container for a three high unit could allow more units to ship in one standard freight container and therefore save significantly on shipping costs.

 While disassembly of the three high unit and shipping in an unassembled form could allow a three high unit to be shipped in a two high unit container, the reality of the
15 situation is that retailers have a preference for fully or mostly assembled product that can easily and quickly make its way to the sales floor. If any assembly is required by the retailer, the assembly should be relatively quick and should be simple.

 Some example embodiments may enable large lawn tractors to be shipped in smaller containers while still providing for relatively simple and easy assembly at the
20 retail location. In this regard, some example embodiments enable the provision of an assembled base unit having a height of less than 34.5 inches (e.g., the maximum height to support three high unit container usage) along with a multi-piece hood and dash assembly that can easily be assembled after shipping (e.g., by the retailer).

 FIG. 1 illustrates a side view of a riding yard maintenance vehicle 10 in the
25 familiar form of a lawn tractor. However, it should be appreciated that example embodiments may be employed on numerous other riding yard maintenance vehicles of various other constructions. Thus, for example, the riding yard maintenance vehicle 10 may be a riding lawn mower of any type (e.g., front-mount riding lawn mower, riding lawn mower with a short or almost zero inch turning radius, and/or the like).

30 In some embodiments, the riding yard maintenance vehicle 10 may include a seat 20 that may be disposed at a center, rear or front portion of the riding yard maintenance vehicle 10. The riding yard maintenance vehicle 10 may also include a steering assembly 30 (e.g., including a steering wheel, handle bars, or other steering apparatus) functionally connected wheels of the riding yard maintenance vehicle 10 to which steering inputs are

provided (e.g., the front and/or rear wheels in various different embodiments) to allow the operator to steer the riding yard maintenance vehicle 10. The operator may sit on the seat 20, which may be disposed to the rear of the steering assembly 30 to provide input for steering of the riding yard maintenance vehicle 10 via the steering assembly 30.

5 The riding yard maintenance vehicle 10 may also include, or be configured to support attachment of, a cutting deck 40 having at least one cutting blade mounted therein. As indicated above, in some cases, a height of the at least one cutting blade may be adjustable by an operator of the riding yard maintenance vehicle 10. The cutting deck 40 may be a fixed or removable attachment in various different embodiments. Moreover, a
10 location of the cutting deck 40 may vary in various alternative embodiments. For example, in some cases the cutting deck 40 may be positioned in front of the front wheels 42, behind the rear wheels 44, or in between the front and rear wheels 42 and 44 (as shown in FIG. 1) to enable the operator to cut grass using the at least one cutting blade when the
15 at least one cutting blade is rotated below the cutting deck 40. When operating to cut grass, the grass clippings may be captured by a collection system (e.g., a bagging attachment), mulched, or expelled from the cutting deck 40 via either a side discharge or a rear discharge.

 The riding yard maintenance vehicle 10 may also include additional control related components such as one or more speed controllers, cutting height adjusters and/or the like.
20 Some of the controllers, such as the speed controllers, may be provided in the form of foot pedals that may sit proximate to a footrest 46 (which may include a portion on both sides of the riding yard maintenance vehicle 10) to enable the operator to rest his or her feet thereon while seated in the seat 20. However, such controllers may also or alternatively be provided in the form of hand operated levers, buttons, or other operable devices.

25 In the pictured example embodiment of FIG. 1, an engine of the riding yard maintenance vehicle 10 may be disposed substantially forward of a seated operator and may be covered by a hood assembly 50. However, in other example embodiments, the engine could be in different positions such as below or behind the operator. In some embodiments, the engine may be operably coupled to one or more of the wheels of the
30 riding yard maintenance vehicle 10 in order to provide drive power for the riding yard maintenance vehicle 10. In some embodiments, the engine may be capable of powering one or two wheels, while in others, the engine may power all four wheels of the riding yard maintenance vehicle 10. Moreover, in some cases, the engine may manually or automatically shift between powering either two wheels or all four wheels of the riding

yard maintenance vehicle 10. It should also be appreciated that some example embodiments may alternatively replace the engine with an electric motor that may be battery powered. Additionally or alternatively, some example embodiments may be applied on units that are gas or diesel powered as well as units that are hybrid units.

5 In an example embodiment, the hood assembly 50 may be configured to pivot forward to expose the engine. In this regard, a pivot point may be provided proximate to a forward portion of the hood assembly 50 to enable a rear portion of the hood assembly 50 to be lifted and rotate forward about the pivot point. The forward rotation of the hood assembly 50 may generally follow the arc shown by arrow 52 in FIG. 1.

10 The riding yard maintenance vehicle 10 may also include a dash assembly 60 that may be positioned between the hood assembly 50 and the operator and proximate to (or through) which a portion of the steering assembly 30 may pass. As shown in FIG. 1, the hood assembly 50 and dash 60 may be proximate to each other and may generally shield other components from view and/or from damage, while also mitigating the noise
15 emanating from the engine. In many cases, the hood assembly 50 and/or dash 60 may further be used to add to the aesthetic appeal of the riding lawn maintenance vehicle 10 and may used as platforms on which branding symbols may be provided.

In an example embodiment, the hood assembly 50, the dash assembly 60, the engine, the wheels, the seat 20 and the remaining components of the riding yard
20 maintenance vehicle 10 may all be operably coupled (directly or indirectly) to a chassis 55 of the vehicle. The chassis 55 may form the frame or framework for a support structure to which the other components may be coupled for assembly of the riding yard maintenance vehicle 10.

For some larger tractors, like the riding yard maintenance vehicle 10 of FIG. 1, the
25 height of the riding yard maintenance vehicle 10 when fully assembled may be as much as 47 inches from the ground or surface on which the wheels rest. Meanwhile, as mentioned above, the maximum height for permitting packaging as a "three high" unit for shipping is about 34.5 inches. Line 70 in FIG. 1 shows the fully assembled height (e.g., 47 inches) and line 80 shows the maximum three high unit height for purposes of comparison. As
30 can be appreciated from FIG. 1, the seat 20, the steering wheel of the steering assembly 30, the dash 60 and the hood assembly 50 of this example each extend through the maximum three high unit height line 80. Thus, according to an example embodiment, the components that extend through the maximum three high unit height line 80 may be either

removed completely or partially for shipping so that the riding yard maintenance vehicle 10 can be shipped in a three high unit, thereby significantly saving on shipping costs.

FIGS. 2 and 3 illustrate perspective views of a riding yard maintenance vehicle 110 of an example embodiment. FIG. 2 illustrates a perspective view of the riding yard maintenance vehicle 110 in a fully assembled form. In this example, the riding yard maintenance vehicle 110 may have a fully assembled height (i.e., a height from the ground to the maximum elevation point of the steering wheel or seat top) of about 47 inches. However, other heights may be applicable for other embodiments. Meanwhile, in order to fit within a three high unit (i.e., a packing box of sufficient size to allow three such units to be stacked on top of one another in a standard shipping container), the height of the unit while shipping should be no more than about 34.5 inches. To achieve this size reduction, the seat 120 of FIG. 2 may be removed. Additionally, the top portion of the steering assembly 130 may be removed (e.g., the steering wheel) along with a portion of the hood assembly 150 and the dash 160. Accordingly, the dash assembly 160 and the hood assembly 150 may each be part of a multi-piece dash and hood assembly as described herein. In this regard, the multi-piece dash and hood assembly may include a split dash and a split hood to facilitate height reduction for shipping.

FIG. 3 illustrates a perspective view of the riding yard maintenance vehicle 110 of FIG. 2 with the above listed components of the split dash and split hood removed to reduce the height reduction desired to enable shipping in a three high unit. As shown in FIG. 3, the seat 120 (not shown in FIG. 3 due to its removal) may be removed from a seat base 125. Likewise an upper dash portion 164 (not shown in FIG. 3 due to its removal) of the split dash may be removed from a dash base 168, and an upper hood portion 154 (not shown in FIG. 3 due to its removal) of the split hood may be removed from a hood base 158. The resulting assembly may be referred to as a vehicle shipping unit 170. Thus, it should be understood that the vehicle shipping unit 170 may be enabled to fit within a three high unit and be shipped in a three high arrangement within standard shipping containers. It should be further understood that the seat 120 may easily be installed (e.g., via a slide and/or snap fitting) on the seat base 125, the upper dash portion 164 may be installed onto the dash base 168, and the upper hood portion 154 may be installed onto the hood base 158 at the retailer's end after shipping. Moreover, as will be described below, the installation may be simple and straightforward so that it can be accomplished with little consumption of work hours and with no frustration due to the simplicity.

As can be appreciated from FIG. 3, the vehicle shipping unit 170 may include the fully assembled chassis, cutting deck and wheels along with every other component that can be assembled while maintaining the height of the vehicle shipping unit 170 less than about 34.5 inches. As such, in particular, the seat 120 and the steering wheel or other portions of the steering assembly 130 that may extend above about 34.5 inches may be removed. However, example embodiments may also include at least a portion of the dash 160 and the hood assembly 150 also assembled onto the vehicle shipping unit 170. Moreover, only portions of the dash 160 and the hood assembly 150 that would extend above about 34.5 inches when assembled are removed. Thus, the dash base 168 and the hood base 158, each of which form visible portions of the dash 160 and hood assembly 150, respectively, when fully assembled, are assembled as a portion of the vehicle shipping unit 170. Accordingly, the vehicle shipping unit 170 comprises a fully assembled riding yard maintenance vehicle 110 with the exception of the seat 120, the portions of the steering assembly 130 that extend above about 34.5 inches when assembled, and portions of the multi-piece dash and hood that would extend above about 34.5 inches when assembled.

This nearly complete assembly of the vehicle shipping unit 170 provides a product that ships in a small container (e.g., facilitating three high unit shipping) that can allow essentially the same number of larger units (e.g., units with a fully assembled height greater than about 34.5 inches) on a standard shipping container as the number of smaller units (e.g., units with a fully assembled height less than about 34.5 inches) that could be fit on the standard shipping container. At a minimum, the vehicle shipping unit 170 allows three high unit usage so that the larger units can be stacked three units high within the standard shipping container. Meanwhile, when received at the shipping destination (e.g., at the retailer's location), the vehicle shipping unit 170 may be unpacked and assembled with relative ease. In particular, the conversion from vehicle shipping unit 170 to a fully assembled riding yard maintenance vehicle 110 may include the assembly of components shipped with the vehicle shipping unit 170 onto the vehicle shipping unit 170 via quick connection assembly components.

FIG. 4, which includes FIGS. 4A and 4B, illustrates a more detailed view of the quick connection assembly components that facilitate simple and easy assembly of the upper dash portion 164 onto the dash base 168 of the split dash, and the upper hood portion 154 onto the hood base 158 of the split hood in accordance with an example embodiment. In this regard, FIG. 4A shows a closer view of the area at which hood

assembly 150 and the dash 160 meet and FIG. 4B shows a blown up view of the slide connectors positioned in the dash base 168 and the hood base 158. FIG. 5, which includes FIGS. 5A, 5B and 5C, illustrates a perspective view looking up into an underside of the upper hood portion 154. FIG. 5A illustrates an entirety of the upper hood portion 154. FIG. 5B illustrates a T connector that engages one of the slide connectors of the hood base 158 and FIG. 5C illustrates an L connector that engages one of the slide connectors of the hood base 158. FIG. 6 illustrates a perspective view looking up into an underside of the upper dash portion 164 to illustrate connections between the upper dash portion 164 and the dash base 168.

10 Referring now to FIGS. 3-6, it should be appreciated that one way the assembly of the riding yard maintenance vehicle 110, from receipt of the vehicle shipping unit 170, may be kept relatively simple may be to provide guided, slidable connections between the upper dash portion 164 and the dash base 168, and between the upper hood portion 154 and the hood base 158. Thus, for example, the assembler may have a relatively easy time
15 identifying which components engage with each other, and how the engagement is to be accomplished.

In some embodiments, the slidable connections may be provided to be oriented in opposite directions. Thus, for example, the upper dash portion 164 may slide onto the dash base 168 in a first direction (i.e., a rearward direction), and the upper hood portion
20 154 may slide onto the hood base 158 in a second direction that is opposite the first direction (i.e., a forward direction). As will be discussed below, the hood assembly 160 may be tilted or rotated forward for part of the assembly, so the movement of the upper hood portion 154 in the second direction (or forward direction) may be at an angle relative to the ground. However, the direction of such movement is still generally in a forward
25 direction.

As shown in FIGS. 3, 4 and 6, the dash base 168 may include guide slots 200 disposed at opposing sides thereof at the top, forward portion (relative to the front of the riding yard maintenance vehicle 110) of the dash base 168. The guide slots 200 may be configured to operably couple to L connectors 210 disposed on the upper dash portion
30 164. The L connectors 210 may be disposed at corresponding bottom, forward portions of the upper dash portion 164 so that they are able to be in registration or alignment with the guide slots 200 when the upper dash portion 164 is fitted with the dash base 168. The L connectors 210 may have a base that extends from the upper dash portion 164 toward the dash base 168 and slides into the guide slot 200 when installed. The L connectors may

also have a hook portion (forming the base of the L) that slides under a portion of the guide slot 200 to prevent movement of the upper dash portion 164 away from the dash base 168 when the L connector 210 is seated in the guide slot 200.

5 In an example embodiment, the guide slots 200 may have tapered openings 220 that "funnel" inward toward the guide slots 200. Thus, as the L connectors 210 are moved toward alignment with the guide slots 200, the alignment is not required to be perfect. Instead, if there is a slight misalignment, the tapered openings 220 will allow the L connectors 210 to be directed into the guide slots 200.

10 At the rear portion of the dash base 168 and the upper dash portion 164, additional slide/snap attachment features may be provided. In this regard, for example, the upper dash portion 164 may include C clasps 230 that are enabled to slide into engagement with a flat portion of the dash base 168. In an example embodiment, two C clasps 230 may be provided with one on each side of a snap assembly 240 that may hold the dash base 168 and the upper dash portion 164. The snap assembly 240 may include a protrusion
15 disposed to extend from the dash base 168 to engage a catch disposed on a portion of the upper dash portion 164. The C clasps 230, the snap assembly 240, the L connectors 210 and the guide slots 200 may be examples of components that may form a slidable dash connection assembly. Of note, each of the components of the slidable dash connection assembly may engage via sliding in a single direction (i.e., the first direction – rearward).
20 In some cases, electrical connectors in each of the dash base 168 and the upper dash portion 164 may also be connected to each other to complete assembly of the dash 160. However, it should be appreciated that the first direction could alternatively be forward and the C clasps 230 could be replaced or augmented with tongue and groove connections in some cases.

25 As shown in FIGS. 3, 4 and 5, the hood base 158 may also include guide slots 300 disposed at opposing sides thereof at the top, forward and rear portions (relative to the front of the riding yard maintenance vehicle 110) of the hood base 158. The guide slots 300 may be configured to operably couple to L connectors 310 disposed at forward, outer portions of the upper hood portion 154, and T connectors 315 disposed at rear, outer
30 portions of the upper hood portion 154. Thus, the guide slots 300 may be disposed at or proximate to respective corner portions of the top of the hood base 150. The L connectors 310 and T connectors 315 may slide into the guide slots 300 when aligned with the guide slots 300 and moved in the second direction. However, it should be appreciated that in some cases, the hood base 158 may be pivoted when such alignment and engagement is

undertaken. Thus, although the guide slots 300 may lie in the second direction when the hood base 158 is in the closed position, the movement of the upper hood portion 154 to mate with the hood base 158 may generally be in the second direction, but offset at some downward oriented angle to account for the pivot of the hood base 158 when the alignment is conducted with the hood base 158 in the pivoted or open position.

The base portion of the L connectors 310 or the top of the T connectors 315 may engage portions of the hood base 158 that surround and form the guide slots 300 when the L connectors 310 and the T connectors 315 are inserted into the guide slots 300. In some cases, the upper hood portion 154 may also include one or more receiving holes 320 that may be disposed at a location meant to align with and receive a protrusion extending from a corresponding portion of the hood base 158. In some cases, the protrusion may have a snap engagement with the receiving holes 320, or the protrusion may be embodied as a screw or other fastening device. Alternatively, a screw or other protruding member may be used for fixing the upper hood portion 154 to the hood base 158 (or the upper dash portion 164 to the dash base 168) at another location. As yet another alternative, the receiving holes 320 could be removed or augmented with a tongue and groove connection at the front portion of the upper hood portion 154 which may mate with the front portion of the hood base 158.

In an example embodiment, the guide slots 300 may have tapered openings 330 that "funnel" inward toward the guide slots 300. Thus, as the L connectors 310 and/or T connectors 315 are moved toward alignment with the guide slots 300, the alignment is not required to be perfect. Instead, if there is a slight misalignment, the tapered openings 330 will allow the L connectors 310 and/or T connectors 315 to be directed into the guide slots 300. In some embodiments, the length of the guide slots 300 may be longer than the length of the protrusions so that the L connectors 310 and/or T connectors 315 may already be within the guide slots 300 to ensure proper alignment of the protrusions with the receiving holes 320 to further facilitate engagement between the protrusions and the receiving holes 320 for ease of assembly.

As can be appreciated from the description above, receiving holes 320 and corresponding protrusions (if employed), the guide slots 300, the L connectors 310 and the T connectors 315 may be examples of components that may form a slidable hood connection assembly. Of note, each of the components of the slidable hood connection assembly may engage via sliding in a single direction (i.e., the second direction – forward). Accordingly, in some embodiments, components of the slidable hood

connection assembly may be oriented to lie in substantially a same plane as components of the slidable dash connection assembly when the hood is not pivoted (i.e., closed). However, the components of the slidable hood connection assembly may be oriented to extend in an opposite direction relative to components of the slidable dash connection assembly as they lie in substantially the same plane. The components may be constructed to permit sliding in any suitable direction, and any number of the same or different connection components may be employed for fixation.

As discussed above, the vehicle shipping unit 170 with the upper hood portion 154, the upper dash portion 164, the seat 120 and the upper portion of the steering assembly 130 removed may fit within a three high unit for shipping and permit relatively rapid and easy assembly at the retailer's location. FIG. 7 illustrates an example of a shipping product 400 incorporating the vehicle shipping unit 170. Of note, the shipping product 400 of FIG. 7 has some walls removed to allow the vehicle shipping unit 170 to be visible. However, when shipped, it should be appreciated that the missing walls are also added.

Within FIG. 7, a rear wall 410, left side wall 420 and bottom wall 430 are shown. Thus, a right side wall, a front wall and a top wall have been removed, but would be present when the shipping product 400 is to be shipped. The total height of the shipping product 400 may be about 36 inches so that the vehicle shipping unit 170, having a height of no more than about 34.5 inches may be accommodated within the shipping product 400.

As can be appreciated in FIG. 7, the seat (not shown) could be inverted and placed over the seat base 125. Meanwhile, a void space may be defined on each side of the hood assembly of the vehicle shipping unit 170. Thus, for example, the upper dash portion and/or the upper hood portion may be placed into one or more shipping boxes (e.g., shipping box 450) that may be provided alongside the vehicle shipping unit 170 in the void space. In this example, the shipping box 450 may sit on the left front wheel and also be supported by the cutting deck. A box may also be provided (e.g., in the other void space on the opposite side) to hold the steering wheel or any other components. Accordingly, the vehicle shipping unit 170 and the multi-piece dash and hood components may all be shipped together within the shipping product 400.

Example embodiments therefore allow for functional components of the hood assembly to be entirely assembled and only what is essentially a trim piece (e.g., the upper hood portion 154) may be removed to keep the vehicle shipping unit 170 below about 34.5 inches in height. Similarly, a split dash allows for mechanical components (e.g., throttle, choke, etc.) to be assembled at the manufacturer's end and some electronic components

(e.g., PTO, charge port, display, etc.) to attach to the upper dash portion that can be stowed in a package within the shipping product 400 and assembled at the point of sale (e.g., via a single point connector). Accordingly, even large models that have a fully assembled height of greater than about 34.5 inches may be shipped in a three high unit to save shipping costs.

FIG. 8 illustrates a method of shipping a riding yard maintenance vehicle according to an example embodiment. The method may include partially assembling a riding yard maintenance vehicle having a fully assembled height of greater than about 34.5 inches as a shipping unit including a split dash and a split hood, the shipping unit being assembled to a height of less than about 34.5 inches including a first portion of the split dash and a first portion of the split hood with a second portion of the split dash and a second portion of the split hood removed at operation 500. The method may further include providing the shipping unit into a shipping product comprising a shipping crate having a height sufficient to allow three shipping products to be stacked within a standard shipping container at operation 510 and shipping the shipping product to a destination at which the shipping unit can be fully assembled at operation 520. Of note, the method may, in some cases, include further optional operations. Some examples of such optional operations are included in FIG. 8 in dashed lines. For example, in some cases, the method may further include providing the second portion of the split hood and the second portion of the split dash separately within the shipping product proximate to the shipping unit. Moreover, additionally or alternatively, the method may include providing a seat and a portion of a steering assembly of the riding yard maintenance vehicle separately into the shipping product proximate to the shipping unit.

Many modifications and other embodiments of the inventions set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the inventions are not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Moreover, although the foregoing descriptions and the associated drawings describe exemplary embodiments in the context of certain exemplary combinations of elements and/or functions, it should be appreciated that different combinations of elements and/or functions may be provided by alternative embodiments without departing from the scope of the appended claims. In this regard, for example, different combinations of elements and/or functions than those explicitly

described above are also contemplated as may be set forth in some of the appended claims. In cases where advantages, benefits or solutions to problems are described herein, it should be appreciated that such advantages, benefits and/or solutions may be applicable to some example embodiments, but not necessarily all example embodiments. Thus, any
5 advantages, benefits or solutions described herein should not be thought of as being critical, required or essential to all embodiments or to that which is claimed herein. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

THAT WHICH IS CLAIMED:

1. A riding yard maintenance vehicle comprising:
a frame to which wheels of the riding yard maintenance vehicle are
5 attachable;
a cutting deck operably coupled to the frame;
a steering assembly operably coupled to at least some of the wheels to enable
steering of the riding yard maintenance vehicle;
a seat base disposed rearward relative to the steering assembly to support a seat
10 when the seat is installed; and
a multi-piece dash and hood assembly,
wherein the riding yard maintenance vehicle has a fully assembled height of
greater than about 34.5 inches, and
wherein the multi-piece dash and hood assembly include a split dash and a split
15 hood that enable portions of the split dash and split hood to be removed to render a height
of the riding yard maintenance vehicle less than about 34.5 inches.
2. The riding yard maintenance vehicle of claim 1, wherein the portions of the
split dash and split hood are removed along with a portion of the steering assembly and the
20 seat to achieve the height of the riding yard maintenance vehicle being less than about
34.5 inches.
3. The riding yard maintenance vehicle of claim 1, wherein the split dash
comprises a dash base that is operably coupled to the frame, and an upper dash portion that
25 is operably coupled to the dash base via a slidable dash connection assembly.
4. The riding yard maintenance vehicle of claim 3, wherein the slidable dash
connection assembly comprises at least one guide slot into which a corresponding
connector is slidable to operably couple the upper dash portion to the dash base.
30
5. The riding yard maintenance vehicle of claim 4, wherein the at least one
guide slot comprises a tapered opening.

6. The riding yard maintenance vehicle of claim 3, wherein the dash base and the upper dash portion each include electrical connectors that are connectable to each other to enable electrical components on the upper dash portion to be functional.

5 7. The riding yard maintenance vehicle of claim 1, wherein the split hood comprises a hood base that is operably coupled to the frame, and an upper hood portion that is operably coupled to the hood base via a slidable hood connection assembly.

10 8. The riding yard maintenance vehicle of claim 7, wherein the slidable hood connection assembly comprises at least one guide slot into which a corresponding connector is slidable to operably couple the upper hood portion to the hood base.

15 9. The riding yard maintenance vehicle of claim 8, wherein the at least one guide slot comprises a tapered opening.

20 10. The riding yard maintenance vehicle of claim 7, wherein the slidable hood connection assembly comprises a guide slot proximate to each corner of the hood base into which a corresponding connector disposed at respective corners of the upper hood portion are slidable to operably couple the upper hood portion to the hood base

25 11. The riding yard maintenance vehicle of claim 1, wherein the split dash comprises a dash base that is operably coupled to the frame, and an upper dash portion that is operably coupled to the dash base via a slidable dash connection assembly,

30 wherein the split hood comprises a hood base that is operably coupled to the frame, and an upper hood portion that is operably coupled to the hood base via a slidable hood connection assembly, and

wherein the slidable dash connection assembly includes at least one dash assembly guide slot extending in a first direction and the slidable hood connection assembly includes at least one hood assembly guide slot extending in second direction that is opposite the first direction.

12. The riding yard maintenance vehicle of claim 11, wherein the slidable hood connection assembly further includes at least one protrusion extending in the first direction to engage a corresponding receiving orifice.

13. The riding yard maintenance vehicle of claim 11, wherein the slidable dash connection assembly further includes at least snap assembly.

5 14. A shipping product comprising:

a plurality of walls forming a shipping crate having a height sufficient to allow three shipping products to be stacked within a standard shipping container; and
a shipping unit packaged for shipping within the shipping product, the shipping unit comprising a partially assembled riding yard maintenance vehicle having a split dash
10 and a split hood,

wherein the shipping unit is assembled to a height of less than about 34.5 inches including a first portion of the split dash and a first portion of the split hood with a second portion of the split dash and a second portion of the split hood removed.

15 15. The shipping product of claim 14, wherein the second portion of the split dash and the second portion of the split hood are separately provided into the shipping product proximate to the shipping unit.

16. The shipping product of claim 15, wherein the shipping unit also has a seat
20 of the riding yard maintenance vehicle and a portion of a steering assembly of the riding yard maintenance vehicle removed.

17. The shipping product of claim 16, wherein the seat and the portion of the steering assembly are separately provided into the shipping product proximate to the
25 shipping unit.

18. A method of shipping a riding yard maintenance vehicle comprising:
partially assembling a riding yard maintenance vehicle having a fully assembled
height of greater than about 34.5 inches as a shipping unit including a split dash and a split
30 hood, the shipping unit being assembled to a height of less than about 34.5 inches including a first portion of the split dash and a first portion of the split hood with a second portion of the split dash and a second portion of the split hood removed; and

providing the shipping unit into a shipping product comprising a shipping crate having a height sufficient to allow three shipping products to be stacked within a standard shipping container;

5 shipping the shipping product to a destination at which the shipping unit can be fully assembled.

19. The method of claim 18, further comprising providing the second portion of the split hood and the second portion of the split dash separately within the shipping product proximate to the shipping unit.

10

20. The method of claim 18, further comprising providing a seat and a portion of a steering assembly of the riding yard maintenance vehicle separately into the shipping product proximate to the shipping unit.

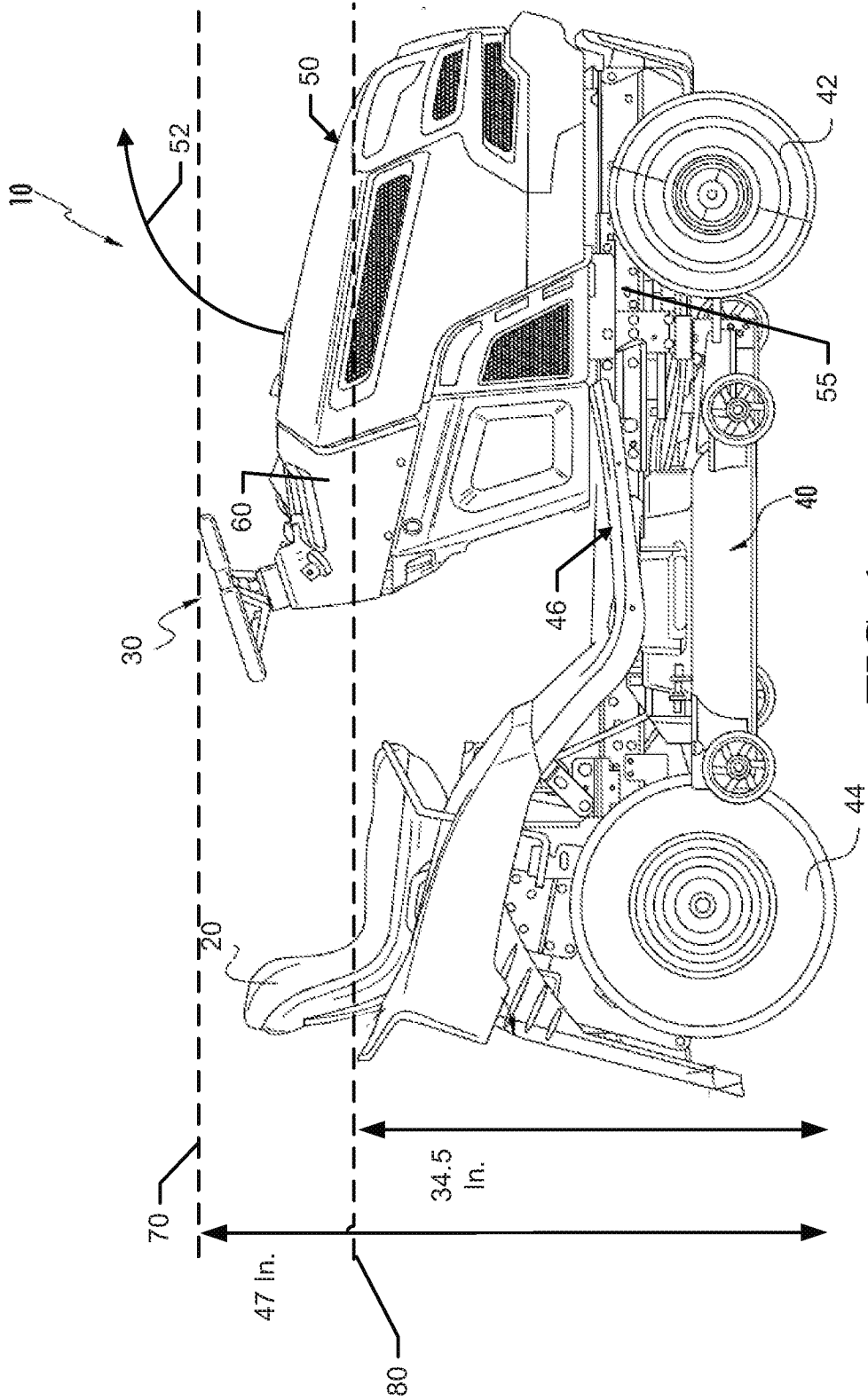


FIG. 1

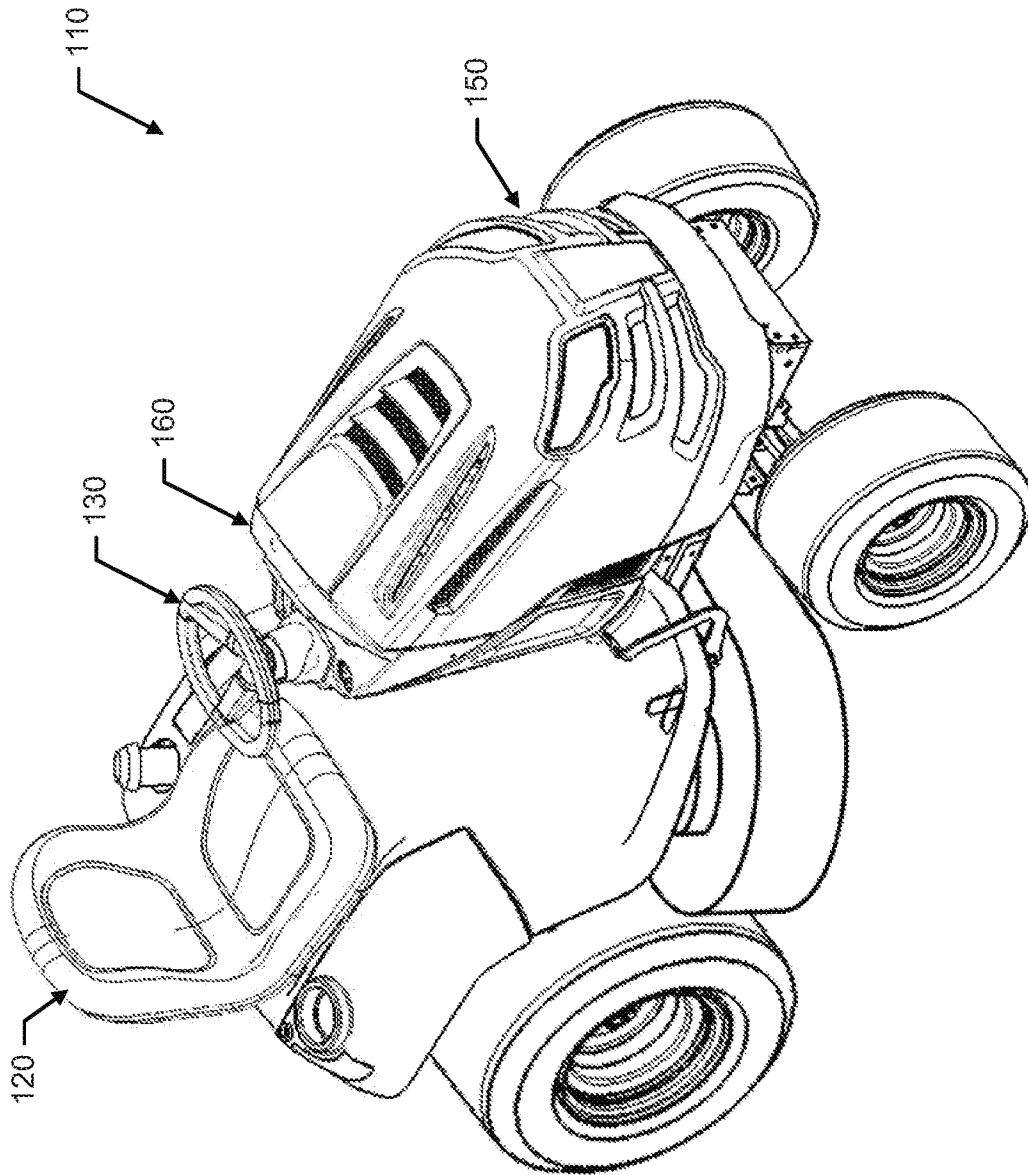


FIG. 2

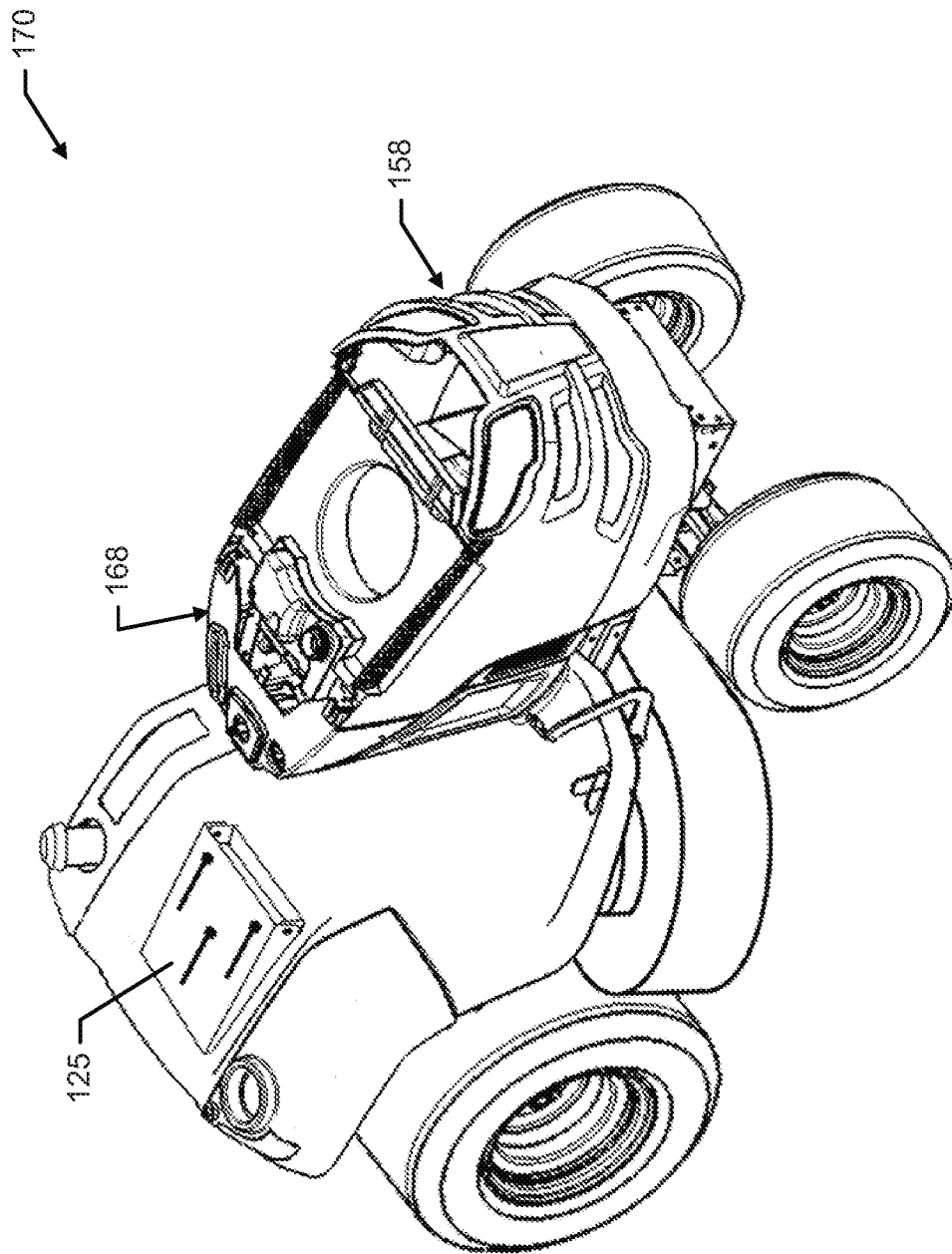


FIG. 3

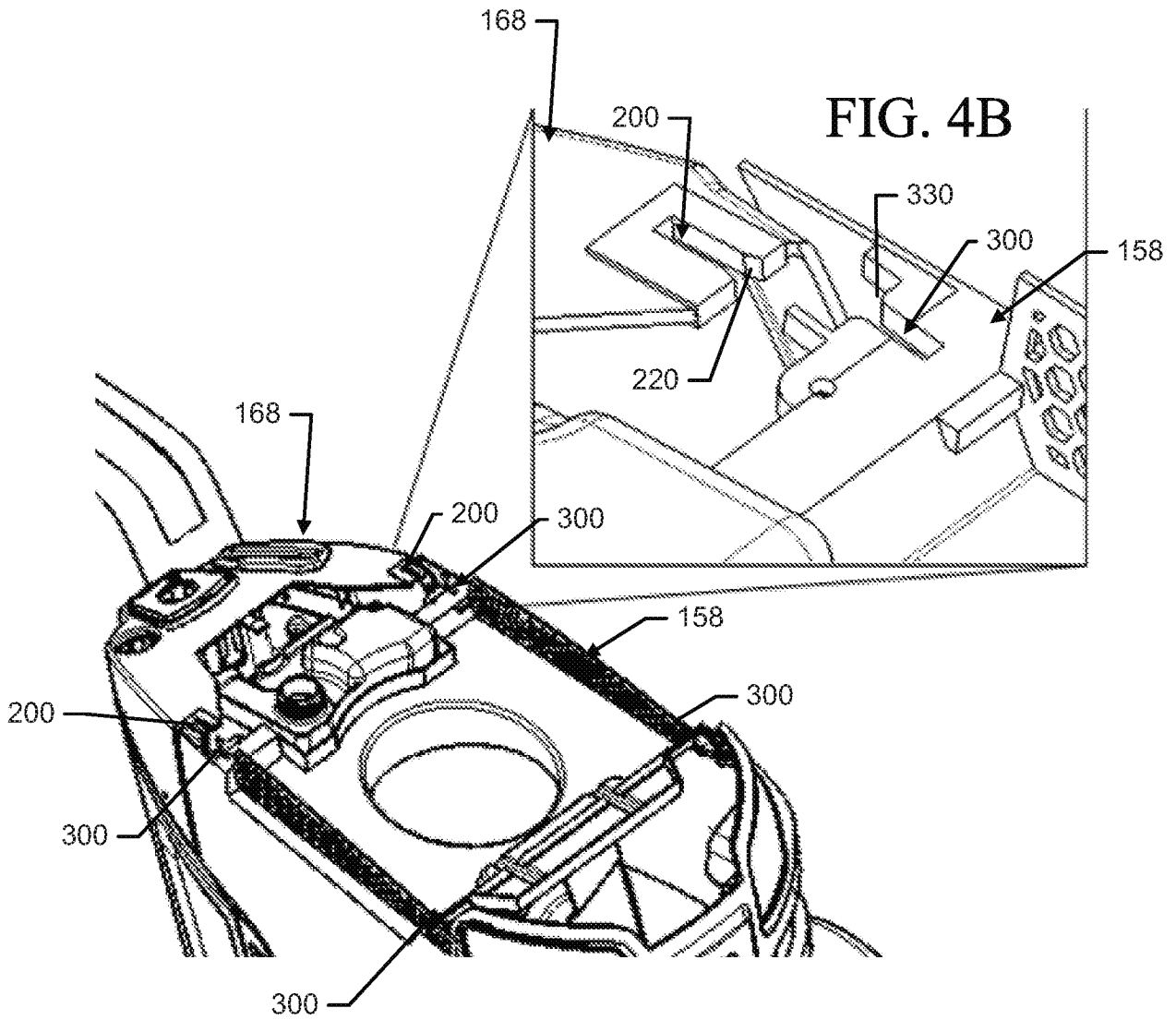


FIG. 4A

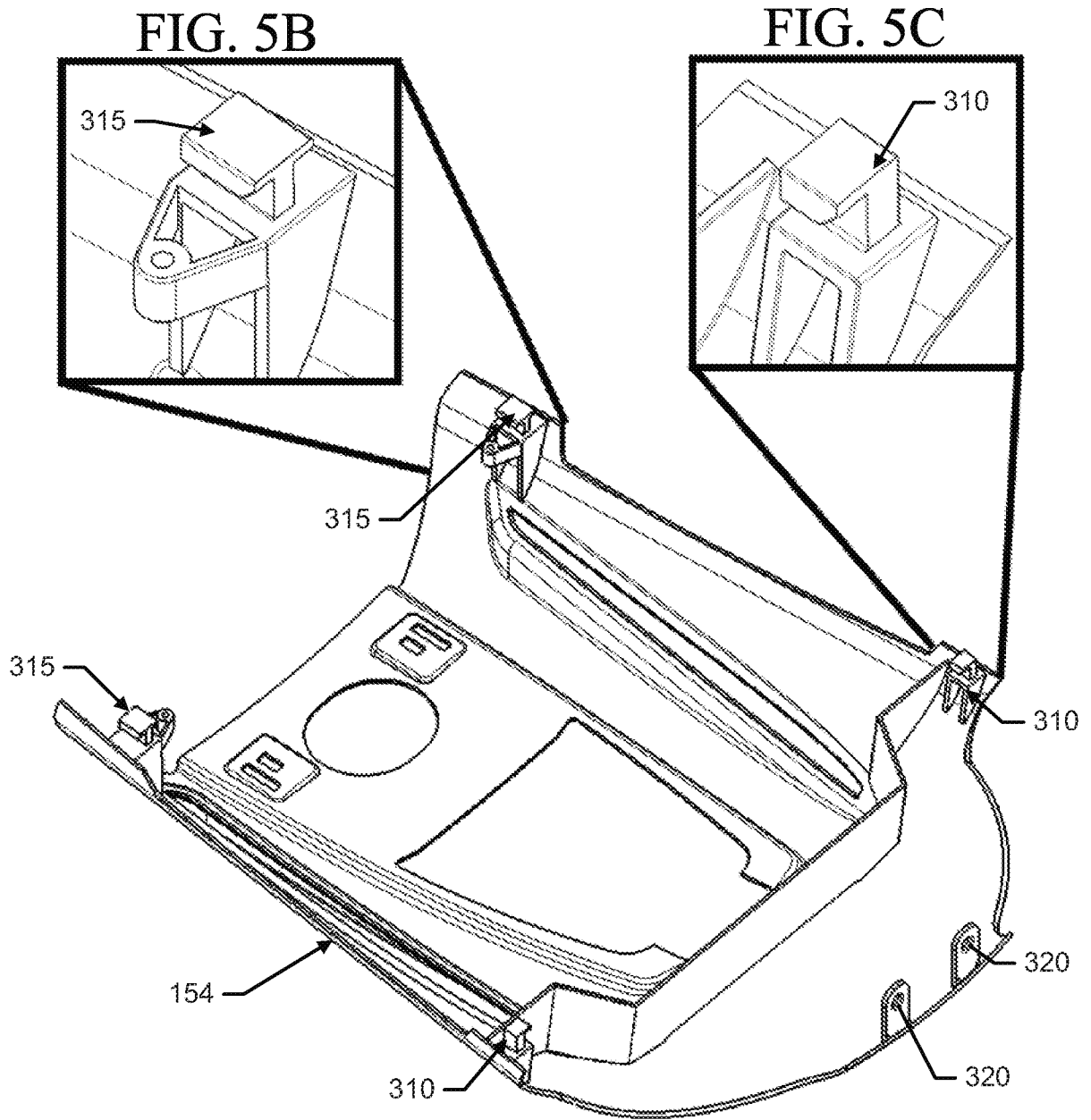


FIG. 5A

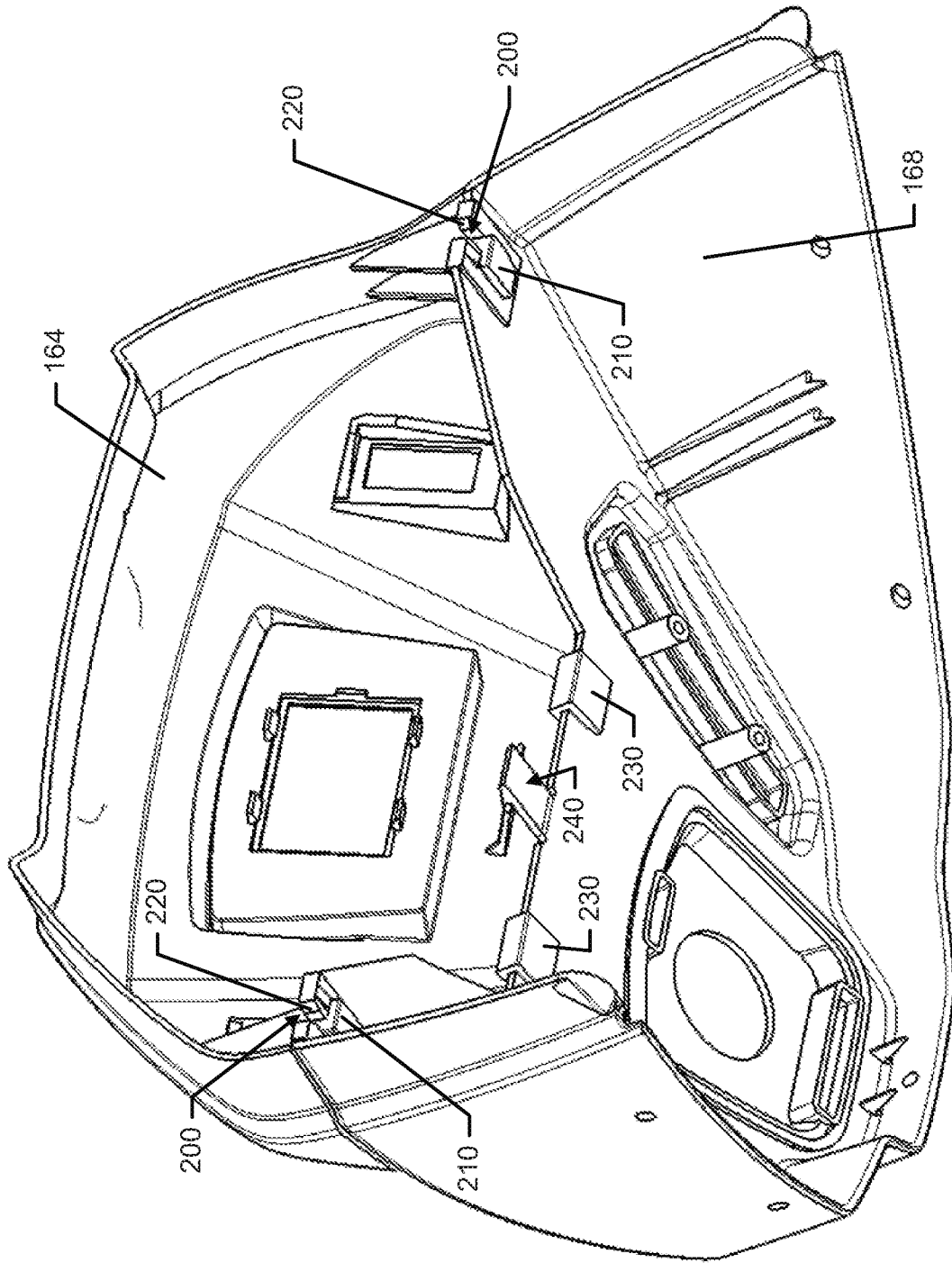


FIG. 6

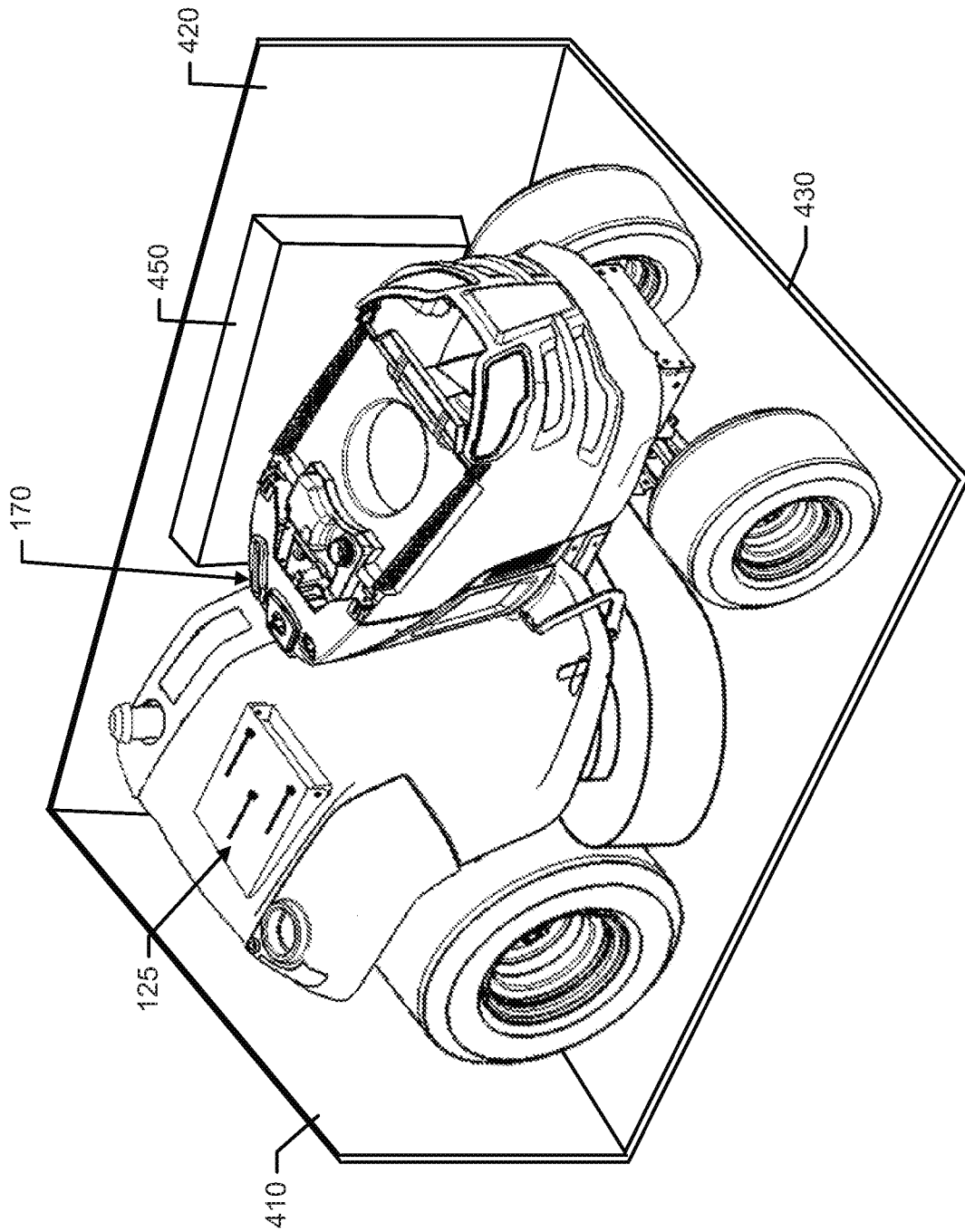


FIG. 7

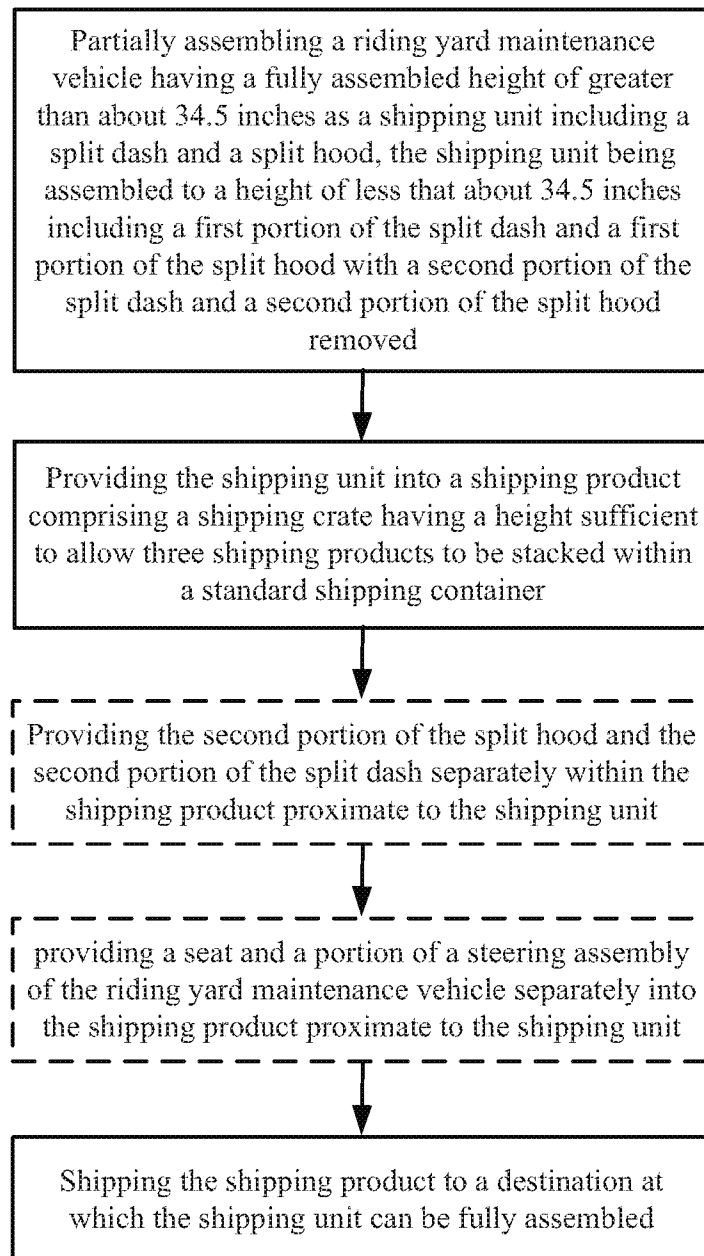


FIG. 8