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LOCATOR BRACKETS FOR FLUID RESERVOIRS, AND SEAT ASSEMBLIES AND VEHICLE INCLUDING THE SAME

Abstract

A locator bracket for attaching one or more fluid reservoirs to a seat assembly is disclosed. The locator bracket includes a connector member, a first receiving member provided at a first end of the connector bracket, and one or more clip holes formed in the connector bracket. The first receiving member includes a pressure gauge wall defining a pressure gauge receiving cavity, and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent. A pressure gauge of the one or more fluid reservoirs is received within the pressure gauge wall, and a shaft of the one or more fluid reservoirs is received within the shaft wall.

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Background/Summary

TECHNICAL FIELD

[0001] The present specification generally relates to locator brackets for attaching components to a vehicle seat and, more specifically, locator brackets for attaching a pair of fluid reservoirs to a movable seat of a vehicle.

BACKGROUND

[0002] It has been known to provide a seat assembly including a seat back and a seat cushion that mimic the walking movement of an occupant's pelvis and torso. Specifically, the known seat assembly allows a movable portion of the seat cushion to pivot at a cushion pivot axis and a movable portion of the seat back to pivot at a seat back pivot axis relative to a fixed portion of each of the seat cushion and the seat back. The movement is controlled by a plurality of dampers extending between the movable and fixed portions of the seat cushion and the seat back. However, it may be desirable to allow for a user selectively control the amount of movement between the movable and fixed portions of the seat cushion and the seat back. Accordingly, fluid reservoirs having controls accessible at a rear of the seat assembly may be utilized to control the flow of fluid to the respective dampers. However, these fluid reservoirs are difficult to position when installing on the seat assembly to ensure that the controls remain accessible at the rear of the seat assembly.

[0003] Accordingly, a need exists for a locator bracket that assists in properly positioning a fluid reservoir onto a seat assembly to ensure that controls of the fluid reservoirs remain specifically positioned so as to allow access by a user after a cover is placed over the rear of the seat assembly.

SUMMARY

[0004] In one embodiment, a locator bracket includes: a connector member having a first end, a second end opposite the first end, and one or more clip holes; and a first receiving member provided at the first end of the connector member, the first receiving member including: a pressure gauge wall defining a pressure gauge receiving cavity; and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent.

[0005] In another embodiment, a seat assembly includes: a primary seat back frame; a locator bracket removably attached to the primary seat back frame; a first fluid reservoir; and a second fluid reservoir, each of the first fluid reservoir and the second fluid reservoir including: a pressure gauge received within the locator bracket; and a shaft received within the locator bracket.

[0006] In yet another embodiment, a vehicle includes: a passenger compartment; and a seat assembly within the passenger compartment, the seat assembly including: a primary seat back frame; a locator bracket removably attached to the primary seat back frame; a first fluid reservoir; and a second fluid reservoir, each of the first fluid reservoir and the second fluid reservoir includes: a pressure gauge received within the locator bracket; a shaft received within the locator bracket; and a pressure valve extending from the shaft.

[0007] These and additional features provided by the embodiments described herein will be more fully understood in view of the following detailed description, in conjunction with the drawings.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The embodiments set forth in the drawings are illustrative and exemplary in nature and not intended to limit the subject matter defined by the claims. The following detailed description of the illustrative embodiments can be understood when read in conjunction with the following drawings, where like structure is indicated with like reference numerals and in which:

[0009] FIG. **1** schematically depicts a vehicle including a kinetic seat assembly, according to one or

more embodiments shown and described herein;
[0010] FIG. **2** schematically depicts a perspective view of the kinetic seat assembly, according to one or more embodiments shown and described herein;
[0011] FIG. **3** schematically depicts a partial rear view of the kinetic seat assembly with a rear cover removed, according to one or more embodiments shown and described herein;
[0012] FIG. **4** schematically depicts a front view of a locator bracket of the kinetic seat assembly, according to one or more embodiments shown and described herein;
[0013] FIG. **5** schematically depicts a bottom perspective view of the locator bracket, according to one or more embodiments shown and described herein;
[0014] FIG. **6** schematically depicts a rear view of the locator bracket, according to one or more embodiments shown and described herein;
[0015] FIG. **7** schematically depicts a perspective view of the locator bracket mounted to a primary seat back frame of the kinetic seat assembly and receiving a pair of fluid reservoirs, according to one or more embodiments shown and described herein; and
[0016] FIG. **8** schematically depicts a partial perspective view of a first receiving member of the locator bracket receiving a first fluid reservoir of the pair of fluid reservoirs, according to one or more embodiments shown and described herein.

DETAILED DESCRIPTION

[0017] FIG. **1** generally depicts an environmental view of an embodiment of a vehicle including a kinetic seat assembly. The vehicle general comprises a passenger compartment which passengers or other occupants occupy. A plurality of vehicle seats including a front driver seat, front passenger seat, and one or more rear passenger seats may be provided within the passenger compartment of the vehicle.
[0018] During a turning operation, the occupant and the kinetic seat assembly receives a force pushing the occupant and the kinetic seat assembly in an opposite direction of the turning operation. However, a secondary seat cushion frame and a secondary seat back frame of the kinetic seat assembly rotate in the direction of the force and in phase with one another relative to a primary seat cushion frame and a primary seat back frame of the kinetic seat assembly. As used herein, the term “in phase” describes two objects, for example, the secondary seat cushion frame and the secondary seat back frame, moving synchronously with one another in the same direction. As such, the term “out of phase” as used herein describes two objects, for example, the secondary seat cushion frame and the secondary seat back frame, not moving synchronously and in the same direction with one another. Further, it should be understood that when two objects are moving in phase with one another, the directions in which those object are moving are similarly in phase with one another.
[0019] Embodiments described herein are directed to a locator bracket for attaching one or more fluid reservoirs to the kinetic seat assembly. The locator bracket includes a connector member, a first receiving member provided at a first end of the connector bracket, and one or more clip holes formed in the connector bracket. The first receiving member includes a pressure gauge wall defining a pressure gauge receiving cavity, and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent. A pressure gauge of the one or more fluid reservoirs is received within the pressure gauge wall, and a shaft of the one or more fluid reservoirs is received within the shaft wall. Various embodiments of the locator bracket are described in more detail herein. Whenever possible, the same reference numerals will be used throughout the drawings to refer to the same or like parts.
[0020] As used herein, the term “vehicle longitudinal direction” refers to the forward-rearward direction of the vehicle (i.e., in the +/−vehicle X direction depicted in FIG. **1**). The term “vehicle lateral direction” refers to the cross-vehicle direction (i.e., in the +/−vehicle Y direction depicted in FIG. **1**), and is transverse to the vehicle longitudinal direction. The term “vehicle vertical direction” refers to the upward-downward direction of the vehicle (i.e., in the +/−vehicle Z direction depicted

in FIG. **1**). As used herein, “upper” and “above” are defined as the positive Z direction of the coordinate axis shown in the drawings. As used herein, “lower” and “below” are defined as the negative Z direction of the coordinate axis shown in the drawings. Further, the term “outboard” or “outward” as used herein refers to the relative location of a component with respect to a vehicle centerline. The term “inboard” or “inward” as used herein refers to the relative location of a component with respect to the vehicle centerline. Because the vehicle structures may be generally symmetrical about the vehicle centerline, the direction to which use of terms “inboard,” “inward,” “outboard,” and “outward” refer may be mirrored about the vehicle centerline when evaluating components positioned along opposite sides of the vehicle.

[0021] As used herein, the term “kinetic seat vertical direction” refers to the same direction as the vehicle vertical direction. In a configuration in which the kinetic seat assembly is a normal, front-facing seat in a vehicle, the term “kinetic seat longitudinal direction” refers to a direction parallel to the vehicle longitudinal direction. However, it should be appreciated that other configurations are contemplated in which the kinetic seat assembly is oriented in a direction in which the kinetic seat longitudinal direction is perpendicular, i.e., parallel to the vehicle lateral direction, or some other direction therebetween.

[0022] Also used herein, it is to be understood that the “turning direction” means a direction in which the occupant is turning the vehicle. Similarly, “counter-turning direction” means a direction opposite the turning direction.

[0023] Reference will now be made in detail to various embodiments of the kinetic seat assembly described herein, examples of which are illustrated in the accompanying drawings. Whenever possible, the same reference numerals will be used throughout the drawings to refer to the same or like parts.

[0024] Referring to FIG. **1**, a vehicle is generally illustrated at **12**. The vehicle **12** includes a passenger compartment **14** provided in an interior thereof. The passenger compartment **14** is a portion of an interior of the vehicle **12** which passengers or other occupants occupy. A plurality of vehicle seats including a driver seat **16**, front passenger seat (not shown), and one or more rear passenger seats **18**, such as second row passenger seats or third row passenger seats, are provided within the passenger compartment **14** of the vehicle **12**.

[0025] In FIG. **1**, the driver seat **16** is provided as a kinetic seat assembly **10**. However, the kinetic seat assembly **10** is not limited to the driver seat **16**. In embodiments, any one or any combination of the driver seat **16**, the passenger seat, and the one or more rear passenger seats **18** may be provided as the kinetic seat assembly **10**.

[0026] In FIG. **1**, the vehicle **12** is provided as an automobile which includes coupes, sedans, minivans, trucks, crossovers, hybrids, and sports utility vehicles. However, the kinetic seat assembly **10** is not limited to automobiles. In embodiments, the kinetic seat assembly **10** may be provided in any vehicle **12** such as a watercraft, aircraft, or the like. In embodiments, the kinetic seat assembly **10** may be provided outside of a vehicle.

[0027] The vehicle **12** includes a steering wheel **20** located in front of the driver seat **16** in the vehicle longitudinal direction. The vehicle **12** includes a display unit **22** and a user interface **24**. In some embodiments, the user interface **24** includes manual buttons or touchscreen controls provided on the display unit **22**. It is appreciated, that the vehicle **12** in which the kinetic seat assembly **10** is provided may be an autonomous vehicle in which no steering wheel **20** is provided.

[0028] In use, the occupant controls the turning direction of the vehicle **12** by rotating the steering wheel **20**. In doing so, the turning direction side shoulder of the occupant moves downward relative to the counter-turning direction side shoulder, and the turning direction side shoulder moves rearward relative to the counter-turning direction side shoulder. At this time, a steering operation can be comfortably performed if the occupant bends the lumbar spine in the turning direction and shortens a distance between the turning direction side pelvis and the shoulder compared to a distance between the counter-turning direction side pelvis and the shoulder, twists the lumbar spine,

and pivotally moves the pelvis in the same direction as the turning direction side shoulder.
[0029] When the occupant directs the vehicle **12** in a turning direction, a force is applied onto the vehicle **12** and, thus, the occupant in the counter-turning direction. In a standard vehicle seat not equipped with moving to compensate for this force and allow the occupant to adjust a pelvis or torso position, the occupant will exhibit strain on these joints, including the knees, waist, and shoulders. In a seat in which the seat cushion frame and the seat back frame rotate in opposite directions, this strain on the occupant's joints is magnified.
[0030] The present disclosure seeks to eliminate these joint stresses by permitting the occupant seated in the kinetic seat assembly **10** to rotate with the force exhibited on the vehicle **12** during a turn. Thus, the present kinetic seat assembly **10** allows the pelvis and the torso of the occupant to rotate in order to maintain a center of gravity within the vehicle **12** in the direction of the turn.
[0031] As the occupant turns the vehicle **12** to the right, the occupant lowers the right shoulder and uses the trunk muscle so as to bend the lumbar spine to the right. This causes the occupant to pivotally move the pelvis counterclockwise in the rolling direction and clockwise in the yaw direction. In addition, the occupant pivotally moved the torso counterclockwise in the rolling direction and clockwise in the yaw direction. During a turn to the right, force is applied onto the occupant to the left. This further facilitates rotation of the torso and pelvis of the occupant to the left due to the momentum of the vehicle **12**.
[0032] An imaginary line L extends from a front pivot point and an upper pivot point of the kinetic seat assembly **10**. With respect to an occupant seated in the kinetic seat assembly **10**, the line L generally extends through the shoulders of the occupant and the knees of the occupant. Thus, during use of the kinetic seat assembly **10**, when undergoing movement during a right turn or a left turn, the kinetic seat assembly **10** ensures that the shoulders of the occupant and the knees of the occupant remain generally aligned with one another while allowing the occupant's waist to move in respective left and right directions in accordance with the above disclosure.
[0033] Referring now to FIG. **2**, the kinetic seat assembly **10** is shown and generally includes a primary seat cushion frame **52**, a secondary seat cushion frame **54** pivotally connected to the primary seat cushion frame **52**, a primary seat back frame **56**, and a secondary seat back frame **58** pivotally connected to the primary seat back frame **56**. Although not depicted, it should be appreciated that the primary seat cushion frame **52** is pivotally connected to the secondary seat cushion frame **54** at a front end thereof by any suitable mechanism such as, for example a ball joint or the like. Similarly, although not depicted, it should be appreciated that the primary seat back frame **56** is pivotally connected to the secondary seat back frame **58** at an upper end thereof by any suitable mechanism such as, for example a ball joint or the like.
[0034] It should be appreciated that, as shown in FIG. **1**, the secondary seat cushion frame **54** includes padding **11** to support a pelvis, such as a buttocks and thighs, of an occupant, and that the secondary seat back frame **58** includes padding **13** to support a back of the occupant. The padding **11**, **13** on the secondary seat cushion frame **54** and the secondary seat back frame **58** are omitted in the remaining figures to better illustrate the embodiments.
[0035] The kinetic seat assembly **10** may include a pair of recliner mechanisms **70** provided on opposite sides of the primary seat cushion frame **52** to facilitate rotation of the primary seat back frame **56** relative to the primary seat cushion frame **52**. The kinetic seat assembly **10** may include a pair of rails **81** for slidably engaging a pair of tracks **85** mounted to a floor F of the passenger compartment **14** of the vehicle **12** (FIG. **1**). Sliding the pair of rails **81** along the tracks **85** allows the occupant to move the kinetic seat assembly **10** forward or backward in the vehicle longitudinal direction in order to comfortably position the kinetic seat assembly **10** and the occupant with respect to the steering wheel **20** (FIG. **1**) of the vehicle **12**.
[0036] Referring again to FIG. **2**, the primary seat back frame **56** includes a rear cover **62** provided on a rear side opposite the secondary seat back frame **58**. The rear cover **62** is removably attached to a fixed portion of the primary seat back frame **56** in any suitable manner such as, for example,

by using threaded fasteners, clips, clasps, or the like. The rear cover **62** includes an outer rear cover portion **63** and a central rear cover portion **64**. In embodiments, the outer rear cover portion **63** and the central rear cover portion **64** are removable from one another. In other embodiments, the outer rear cover portion **63** and the central rear cover portion **64** are integrally molded as a one-piece, monolithic component.

[0037] The outer rear cover portion **63** includes a lower cover member **63**A, a first side cover member **63**B, and a second side cover member **63**C. The first side cover member **63**B and the second side cover member **63**C extend from opposite ends of the lower cover member **63**A. In embodiments, the lower cover member **63**A includes a pair of lower openings **63**D to provide visual inspection to otherwise hidden components, such as the lateral dampers **258**, **260** described in more detail herein.

[0038] The central rear cover portion **64** is provided between the first side cover member **63**B and the second side cover member **63**C and extends from an upper end of the primary seat back frame **56** toward the lower cover member **63**A. The central rear cover portion **64** includes a body member **65**, a first receptacle **66**A, and a second receptacle **66**B. The first receptacle **66**A and the second receptacle **66**B are provided on opposite sides of the body member **65** and define respective cavities for receiving a pair of fluid reservoirs **334**, **336**, as described in more detail herein. A pressure gauge opening **67**A, **67**B and a pressure valve opening **68**A, **68**B are formed in each of the first receptacle **66**A and the second receptacle **66**B. The pressure gauge opening **67**A, **67**B and the pressure valve opening **68**A, **68**B are spaced apart from another along a respective one of the first receptacle **66**A and the second receptacle **66**B.

[0039] Referring now to FIG. **3**, the primary seat back frame **56** is shown with the rear cover **62** removed to illustrate the internal components of the kinetic seat assembly **10** that facilitate movement of the primary seat cushion frame **52** (FIG. **2**) relative to the secondary seat cushion frame **54**, and the primary seat cushion frame **52** relative to the primary seat back frame **56**. As shown, the primary seat back frame **56** may have a generally trapezoidal shape. The primary seat back frame **56** includes an upper member **76** provided proximate an upper portion thereof and a lower member **78** provided proximate a lower portion thereof. The upper member **76** extends toward the lower member **78** and includes a pair of locating holes formed at opposite sides of the upper member **76**, and a pair of fastener holes formed at opposite sides of the upper member **76** below the locating holes. The lower member **78** traverses between a pair of opposing side members **80**, **82**. The lower member **78** includes a lower plate **79** extending upwardly therefrom and toward the upper member **76**. The lower plate **79** is provided at a substantially center location between the side members **80**, **82**. A pair of lower holes and a pair of upper holes are formed in the lower plate **79**. As described in more detail herein, the pair of lower holes are provided to facilitate coupling a lateral damping mechanism **102** to the primary seat back frame **56**. Also described in more detail herein, the pair of upper holes are provided to facilitate coupling the fluid reservoirs **334**, **336** to the primary seat back frame **56**

[0040] Referring still to FIG. **3**, a linkage assembly **60** couples the secondary seat cushion frame **54** to the secondary seat back frame **58**. Accordingly, the linkage assembly **60** ensures that the secondary seat cushion frame **54** and the secondary seat back frame **58** move in phase, i.e., in unison and in the same direction, with one another. As shown, the linkage assembly **60** is coupled to the rear surface of the secondary seat back frame **58**.

[0041] Referring still to FIG. **3**, a vertical damping mechanism **100** is depicted for facilitating a damping effect to the secondary seat back frame **58** and the secondary seat cushion frame **54** relative to the primary seat back frame **56** and the primary seat cushion frame **52**. Additionally, a lateral damping mechanism **102** is depicted for facilitating a damping effect with respect to the secondary seat back frame **58** and the secondary seat cushion frame **54** relative to the primary seat back frame **56** and the primary seat cushion frame **52**.

[0042] The vertical damping mechanism **100** includes first and second vertical dampers **144**, **146**

interconnecting the primary seat cushion frame **52** and the secondary seat cushion frame **54** due to the connection therebetween by the linkage assembly **60**. The first and second vertical dampers **144**, **146** include a ball joint **145** provided at a first end **147** thereof to rotatably couple the first and second vertical dampers **144**, **146** to the linkage assembly **60**, and a ball joint **149** at an opposite second end **151** thereof to rotatably couple the first and second vertical dampers **144**, **146** to the primary seat cushion frame **52**. The first and second vertical dampers **144**, **146** each includes a fluid inlet **144**A, **146**A for receiving a fluid from a fluid supply.

[0043] The lateral damping mechanism **102** includes first and second lateral dampers **258**, **260** for facilitating movement of the secondary seat back frame **58** relative to the primary seat back frame **56**. The first and second lateral dampers **258**, **260** includes a ball joint **277** at a first end **265** thereof to rotatably couple the first and second lateral dampers **258**, **260** to the primary seat back frame **56**, and specifically the lower plate **79**. An opposite second end **272** of the first and second lateral dampers **258**, **260** is slidably received in a hole **275** formed in a respective flange **273** extending from the rear surface of the secondary seat back frame **58**. Accordingly, movement in a vehicle lateral direction allows the first and second lateral dampers **258**, **260** to slide through the holes **275** and permit movement of the secondary seat back frame **58** relative to the primary seat back frame **56**. The first and second lateral dampers **258**, **260** each includes a fluid inlet **258**A, **260**A for receiving a fluid from a fluid supply.

[0044] Referring still to FIG. **3**, the first fluid reservoir **334** is provided for delivering and receiving fluid to and from the vertical damping mechanism **100**, specifically, the vertical dampers **144**, **146**. The second fluid reservoir **336** is provided for delivering and receiving fluid to and from the lateral damping mechanism **102**, specifically, the lateral dampers **258**, **260**. In embodiments, the first fluid reservoir **334** may be provided for delivering fluid to and receiving fluid from the vertical dampers **144**, **146** via a conduit **335**A extending from an outlet **334**A of the first fluid reservoir **334** to a vertical distributor **337**. A pair of conduits **335**B, **335**C extends from the vertical distributor **337** to a fluid inlet **144**A, **146**A of a respective one of the vertical dampers **144**, **146**. Similarly, the second fluid reservoir **336** may be provided for delivering fluid to and receiving fluid from the lateral dampers **258**, **260** via a conduit **335**D from an outlet **336**A of the second fluid reservoir **336** to a lateral distributor **338**. A pair of conduits **335**E, **335**F extends from the lateral distributor **338** to a fluid inlet **258**A, **260**A of a respective one of the lateral dampers **258**, **260**.

[0045] It should be appreciated that a pressure within the fluid reservoirs **334**, **336** directly affects a speed at which the vertical dampers **144**, **146** and the lateral dampers **258**, **260** return to an uncompressed state from a compressed state. For example, when the pressure within the fluid reservoirs **334**, **336** is increased, the speed at which the fluid flows from the fluid reservoirs **334**, **336** to the vertical dampers **144**, **146** and the lateral dampers **258**, **260** increases. Alternatively, when the pressure within the fluid reservoirs **334**, **336** is decreased, the speed at which the fluid flows from the fluid reservoirs **334**, **336** to the vertical dampers **144**, **146** and the lateral dampers **258**, **260** decreases. Additionally, it should be appreciated that a pressure within the fluid reservoirs **334**, **336** directly affects a speed at which the vertical dampers **144**, **146** and the lateral dampers **258**, **260** moves from the uncompressed state to the compressed state. For example, when the pressure within the fluid reservoirs **334**, **336** is increased, the force required to move the vertical dampers **144**, **146** and the lateral dampers **258**, **260** from the uncompressed state to the compressed state increases. Alternatively, when the pressure within the fluid reservoirs **334**, **336** is decreased, the force required to move the vertical dampers **144**, **146** and the lateral dampers **258**, **260** from the uncompressed state to the compressed state decreases. The fluid reservoirs **334**, **336** may be any suitable device for controlling the amount, as well as rate, of fluid provided to the vertical dampers **144**, **146** and the lateral dampers **258**, **260**. The pressure within the fluid reservoirs **334**, **336** may be caused by any compressible fluid such as, for example, air, steam, or gas.

[0046] In embodiments, the fluid reservoirs **334**, **336** each includes a pressure gauge **340** for displaying or otherwise indicating a pressure within the fluid reservoirs **334**, **336**. The pressure

gauge **340** may be any suitable display such as, for example, an analog gauge, a digital gauge, or the like. As shown, the pressure gauge **340** is mounted to an upper end of the fluid reservoirs **334**, **336** opposite the outlets **334**A, **336**A.

[0047] The fluid reservoirs **334**, **336** each further include a pressure valve **342**. The pressure valve **342** may be any suitable valve for regulating the pressure within the fluid reservoirs **334**, **336** such as, for example, a Schrader valve, a Presta valve, a Dunlop valve, and the like. The pressure valve **342** may be operated to set the pressure within a respective one of the fluid reservoirs **334**, **336** and/or maintain the pressure within a set threshold. The pressure valve **342** may be controlled either manually or automatically in response to an external control unit transmitting a signal to an actuator communicatively coupled to the pressure valve **342**.

[0048] As described in more detail herein, it is desirable to ensure that the fluid reservoirs **334**, **336** are specifically positioned during installation on the primary seat back frame **56** and maintained in position after the rear cover **62** is installed such that the pressure gauge **340** and the pressure valve **342** of each fluid reservoir **334**, **336** is received within or aligned with a respective pressure gauge opening **67**A, **67**B and a pressure valve opening **68**A, **68**B formed in the rear cover **62**. Accordingly, the pressure gauge **340** and the pressure valve **342** of each fluid reservoir **334**, **336** being aligned with a respective pressure gauge opening **67**A, **67**B and a respective pressure valve opening **68**A, **68**B permits the pressure gauge **340** and the pressure valve **342** of each fluid reservoir **334**, **336** to be visible and/or accessible through the pressure gauge openings **67**A, **67**B and the pressure valve openings **68**A, **68**B. As shown in FIG. **3**, a locator bracket **400** is provided for orienting and fixing the fluid reservoirs **334**, **336** in position on the primary seat back frame **56** prior to installing the rear cover **62**. As described in more detail herein, the locator bracket **400** is removably attached to the primary seat back frame **56**.

[0049] Referring now to FIGS. **4-6**, the locator bracket **400** is illustrated separate from the primary seat back frame **56** and the fluid reservoirs **334**, **336**. The locator bracket **400** includes a first receiving member **402**, a second receiving member **404** spaced apart from the first receiving member **402**, and a connector member **406** extending between the first receiving member **402** and the second receiving member **404**. Although the locator bracket **400** is described herein as including a first receiving member **402** and a second receiving member **404**, it should be appreciated that, in embodiments, the locator bracket **400** may include only the first receiving bracket **402**.

[0050] The first receiving member **402** has a front surface **408**A and a rear surface **410**A opposite the front surface **408**A. The first receiving member **402** also includes a retaining wall **412**A extending from the front surface **408**A in a direction opposite the rear surface **410**A. The retaining wall **412**A includes a pressure gauge wall **414**A and a shaft wall **416**A extending from the pressure gauge wall **414**A. In embodiments, the pressure gauge wall **414**A has a substantially circular shape and defines a pressure gauge receiving cavity **418**A. However, it should be appreciated that the pressure gauge wall **414**A may have any suitable shape corresponding a shape of a pressure gauge **340** to be received within the pressure gauge receiving cavity **418**A, as shown in FIG. **7**.

[0051] As shown in FIG. **4**, one or more cutouts **420**A are formed in the pressure gauge wall **414**A. Specifically, a pair of cutouts **420**A are shown. These cutouts **420**A may be formed to permit the locator bracket **400** to be provided against a portion of the primary seat back frame **56** without obstruction. Accordingly, it should be appreciated that any number of cutouts **420**A may be formed in the pressure gauge wall **414**A to accommodate the primary seat back frame **56**. As shown in FIGS. **4** and **5**, a plurality of ribs **422**A extend radially inwardly from an inner surface **424**A of the pressure gauge wall **414**A and the front surface **408**A of the first receiving member **402**. In embodiments, as shown in FIG. **4**, a plurality of ribs **422**A are provided on the inner surface **424**A of the pressure gauge wall **414**A between the pair of cutouts **420**A, and a plurality of ribs **422**A are provided on the inner surface **424**A of the pressure gauge wall **414**A on opposite sides of the shaft wall **416**A. In embodiments, as shown in FIG. **5**, the ribs **422**A have a length extending in an axial

direction from the front surface **408**A of the first receiving member **402** along an entire width of the pressure gauge wall **414**A. However, in other embodiments, the length of the ribs **422**A may be less than a width of the pressure gauge wall **414**A.

[0052] Referring still to FIG. **5**, the shaft wall **416**A includes a front end **426**A, a rear end **428**A opposite the front end **426**A, an inner wall **430**A, and a tapered wall **432**A extending from the inner wall **430**A to the front end **426**A. As shown in FIG. **5**, the inner wall **430**A has a substantially circular shape and defines a shaft receiving indent **434**A. The shaft receiving indent **434**A is open to the front end **426**A of the shaft wall **416**A. However, it should be appreciated that the inner wall **430**A may have any suitable shape corresponding a shape of a shaft **344** of the fluid reservoirs **334**, **336** to be received within the shaft receiving indent **434**A, as shown in FIGS. **7** and **8**. The shaft wall **416**A defines a restriction feature **436**A formed at an intersection of the inner wall **430**A and the tapered wall **432**A. As shown in FIG. **8**, the restriction feature **436**A has a width W less than a diameter D of the shaft receiving indent **434**A, which is also less than a diameter of the shaft **344** of the fluid reservoirs **334**, **336**. Referring again to FIG. **4**, a shaft axis A**1** extends coaxial to the shaft receiving indent **434**A. As described in more detail herein, in embodiments, the shaft axis A**1** is oriented at a non-parallel angle relative to the vehicle vertical direction. In other embodiments, the shaft axis A**1** is oriented parallel to the vehicle vertical direction.

[0053] The first receiving member **402** and the second receiving member **404** are identical in structure. Accordingly, similar to the first receiving member **402**, the second receiving member **404** has a front surface **408**B, a rear surface **410**B opposite the front surface **408**B, and a retaining wall **412**B extending from the front surface **408**B in a direction opposite the rear surface **410**B. The retaining wall **412**B includes a pressure gauge wall **414**B and a shaft wall **416**B extending from the pressure gauge wall **414**B. As shown in FIG. **4**, one or more cutouts **420**B are formed in the pressure gauge wall **414**B. As shown in FIGS. **4** and **5**, a plurality of ribs **422**B extend from an inner surface **424**B of the pressure gauge wall **414**B and the front surface **408**B of the second receiving member **404**. Referring still to FIG. **5**, the shaft wall **416**B includes a front end **426**B, a rear end **428**B opposite the front end **426**B, an inner wall **430**B, and a tapered wall **432**B extending from the inner wall **430**B to the front end **426**B. As shown in FIG. **5**, the inner wall **430**B has a substantially circular shape and defines a shaft receiving indent **434**B. The shaft receiving indent **434**B is open to the front end **426**B of the shaft wall **416**B. As with the first receiving member **402**, the shaft wall **416**B of the second receiving member **404** defines a restriction feature **436**B formed at an intersection of the inner wall **430**B and the tapered wall **432**B.

[0054] A shaft axis A**2** extends coaxial to the shaft receiving indent **434**B. As described in more detail herein, in embodiments, the shaft axis A**2** is oriented at a non-parallel angle relative to the vehicle vertical direction. In other embodiments, the shaft axis A**2** is oriented parallel to the vehicle vertical direction. More particularly, as shown in FIGS. **4** and **7**, the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** are oriented non-parallel to one another. Even more particularly, the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** are oriented toward one another to form a V-shape such that a distance between the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** decreases in the downward vehicle vertical direction. In embodiments in which the shaft axis A**1** and the shaft axis A**2** are non-parallel to one another, an angle α between an intersection of the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** is greater than 0 degrees and less than 180 degrees. In embodiments, the angle α between an intersection of the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** is equal to or greater than 10 degrees and less than or equal to 60 degrees. In embodiments, the angle α between an intersection of the shaft axis A**1** of the first receiving member **402** and the shaft axis A**2** of the second receiving member **404** is equal to or greater than 20 degrees and less than or equal to 40 degrees.

[0055] Referring again to FIGS. **4**-**6**, the connector member **406** extending between the first receiving member **402** and the second receiving member **404** is now described in more detail. The connector member **406** includes a first end **438**, a second end **440** opposite the first end **438**, a front surface **442**, and a rear surface **444** opposite the front surface **442**. The first receiving member **402** is provided at the first end **438** of the connector member **406**, and the second receiving member **404** is provided at the second end **440** of the connector member **406**. In embodiments, the first receiving member **402** is integrally formed with the first end **438** of the connector member **406**, and the second receiving member **404** is integrally formed with the second end **440** of the connector member **406**. Accordingly, the first receiving member **402**, the second receiving member **404**, and the connector member **406** may be collectively formed as a one piece, monolithic structure. In other embodiments, the first receiving member **402** and the second receiving member **404** may be removably fixed to the first end **438** and the second end **440** of the connector member **406**, respectively, in any suitable manner such as, for example, using threaded fasteners, clips, and the like. In embodiments, the locator bracket **400** may be formed from any suitable material such as, for example, plastic, metal, rubber, and the like.

[0056] As shown in FIGS. **4** and **6**, a pair of clip holes **446**A, **446**B are formed in the connector member **406** with each of the clip holes **446**A, **446**B proximate a respective one of the first end **438** and the second end **440** of the connector member **406**. Specifically, the first clip hole **446**A is formed closer to the first end **438** of the connector member **406** than the second end **440** of the connector member **406**, and the second clip hole **446**B is formed closer to the second end **440** of the connector member **406** than the first end **438** of the connector member **406**. The clip holes **446**A, **446**B extend through the front surface **442** and the rear surface **444** of the connector member **406**.

[0057] As shown in FIG. **6**, a pair of grooves **448**A, **448**B are formed in the rear surface **444** of the connector member **406** with each of the grooves **448**A, **448**B proximate a respective one of the first end **438** and the second end **440** of the connector member **406**. Accordingly, the pair of grooves **448**A, **448**B are spaced apart from one another. Specifically, the first groove **448**A is formed closer to the first end **438** of the connector member **406** than the second end **440** of the connector member **406**, and the second groove **448**B is formed closer to the second end **440** of the connector member **406** than the first end **438** of the connector member **406**. In embodiments, the grooves **448**A, **448**B have an arcuate shape.

[0058] Referring now to FIG. **7**, the locator bracket **400** is shown positioned on the upper member **76** of the primary seat back frame **56** with a pair of protrusions **86**A, **86**B formed on opposite sides of the upper member **76** received within the grooves **448**A, **448**B formed in the rear surface **444** of the connector member **406** of the locator bracket **400**. To fix the locator bracket **400** onto the primary seat back frame **56**, specifically the upper member **76** of the primary seat back frame **56**, a pair of clips **451** are utilized and inserted into a respective one of the clip holes **446**A, **446**B of the connector member **406** and through the locating holes formed in the upper member **76**, as shown in FIG. **3**. The clips **451** may be press-fit into the clip holes **446**A, **446**B of the connector member **406** and through the locating holes formed in the upper member **76**.

[0059] Once the locator bracket **400** is fixed to the primary seat back frame **56**, the fluid reservoirs **334**, **336** are positioned relative to the locator bracket **400** and fixed thereto. Specifically, the first fluid reservoir **334** is oriented and positioned such that the pressure gauge **340** of the first fluid reservoir **334** is received within the pressure gauge receiving cavity **418**A of the first receiving member **402**. With the pressure gauge **340** received within the pressure gauge receiving cavity **418**A, the pressure gauge **340** abuts against the ribs **422**A. Accordingly, the ribs **422**A reduce the amount of movement the pressure gauge **340** is susceptible to while positioned within the pressure gauge receiving cavity **418**A.

[0060] Additionally, as shown in FIGS. **7** and **8**, the shaft **344** of the first fluid reservoir **334** is received within the shaft receiving indent **434**A of the first receiving member **402**. More

particularly, as shown in FIG. **8**, the restriction feature **436**A defined by the shaft wall **416**A ensures a snap fit as the shaft **344** of the first fluid reservoir **334** is pressed into the shaft receiving indent **434**A and retains the shaft **344** of the first fluid reservoir **334** within the shaft receiving indent **434**A.

[0061] Thereafter, with the first fluid reservoir **334** properly positioned relative to the primary seat back frame **56**, a fastening ring **450** positioned around the first fluid reservoir **334** may be secured to the upper member **76** of the primary seat back frame **56** via a threaded fastener **452** or the like, which extends through a hole formed in the fastening ring **450** and a respective fastener hole.

[0062] It should be appreciated that the second fluid reservoir **336** is secured to the locator bracket **400** and, thus, the primary seat back frame **56** in the same manner as described above with respect to the first fluid reservoir **334**. Specifically, the pressure gauge **340** of the second fluid reservoir **336** is received within the pressure gauge receiving cavity **418**B of the second receiving member **404**, and a shaft **344** of the second fluid reservoir **336** is received within the shaft receiving indent **434**B of the second receiving member **404**. Thereafter, a fastening ring **454** positioned around the second fluid reservoir **336** is secured to the upper member **76** of the primary seat back frame **56** via a threaded fastener **456** or the like, which extends through a hole formed in the fastening ring **454** and a respective fastener hole.

[0063] Referring again to FIG. **3**, a lower end of the first fluid reservoir **334** and the second fluid reservoir **336** opposite the locator bracket **400** is fixed to the lower member **78** to further secure the first fluid reservoir **334** and the second fluid reservoir **336** to the primary seat back frame **56**. More particularly, the Specifically, the first fluid reservoir **334** and the second fluid reservoir **336** are fixed to the lower plate **79** of the lower member **78** via a lower bracket **458** circumscribing the lower end of the first fluid reservoir **334** and the second fluid reservoir **336**. The lower bracket **458** is fixed to the lower plate **79** via a pair of fasteners **460** extending through respective upper holes formed in the lower plate **79**.

[0064] From the above, it is to be appreciated that defined herein is a locator bracket for attaching one or more fluid reservoirs to a kinetic seat assembly. The locator bracket includes a connector member, a first receiving member provided at a first end of the connector bracket, and one or more clip holes formed in the connector bracket. The first receiving member includes a pressure gauge wall defining a pressure gauge receiving cavity, and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent. A pressure gauge of a respective one of the one or more fluid reservoirs is received within the pressure gauge wall, and a shaft of the one or more fluid reservoirs is received within the shaft wall.

[0065] While particular embodiments have been illustrated and described herein, it should be understood that various other changes and modifications may be made without departing from the scope of the claimed subject matter. Moreover, although various aspects of the claimed subject matter have been described herein, such aspects need not be utilized in combination. It is therefore intended that the appended claims cover all such changes and modifications that are within the scope of the claimed subject matter.

Claims

1. A locator bracket comprising: a connector member having a first end, a second end opposite the first end, and one or more clip holes; and a first receiving member provided at the first end of the connector member, the first receiving member including: a pressure gauge wall defining a pressure gauge receiving cavity; and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent.

2. The locator bracket of claim 1, further comprising a second receiving member provided at the second end of the connector member, the second receiving member including: a pressure gauge wall defining a pressure gauge receiving cavity; and a shaft wall extending from the pressure gauge

wall and defining a shaft receiving indent.

3. The locator bracket of claim 2, wherein: the one or more clip holes is a first clip hole and a second clip hole; the first clip hole is located closer to the first end of the connector member than the second end of the connector member; and the second clip hole is located closer to the second end of the connector member than the first end of the connector member.

4. The locator bracket of claim 1, wherein a pair of grooves are spaced apart from one another and formed in a rear surface of the connector member, the pair of grooves having an arcuate shape.

5. The locator bracket of claim 2, further comprising a plurality of ribs extending radially inwardly from the pressure gauge wall of each of the first receiving member and the second receiving member.

6. The locator bracket of claim 4, wherein: a pair of cutouts are formed in the pressure gauge wall of each of the first receiving member and the second receiving member; and the plurality of ribs are provided between the pair of cutouts, and between the pair of cutouts and the shaft wall.

7. The locator bracket of claim 1, wherein the shaft wall of each of the first receiving member and the second receiving member includes a front end, a rear end opposite the front end, an inner wall, and a tapered wall extending from the inner wall to the front end, the inner wall defines the shaft receiving indent.

8. The locator bracket of claim 7, wherein: the shaft wall defines a restriction feature formed at an intersection of the inner wall and the tapered wall; and the restriction feature has a width less than a diameter of the shaft receiving indent.

9. The locator bracket of claim 1, wherein: a shaft axis extends coaxial to the shaft receiving indent of each of the first receiving member and the second receiving member; and an angle between an intersection of the shaft axis of the first receiving member and the shaft axis of the second receiving member is equal to or greater than 20 degrees and less or equal to 40 degrees.

10. A seat assembly comprising: a primary seat back frame; a locator bracket removably attached to the primary seat back frame; a first fluid reservoir; and a second fluid reservoir, each of the first fluid reservoir and the second fluid reservoir including: a pressure gauge received within the locator bracket; and a shaft received within the locator bracket.

11. The seat assembly of claim 10, wherein: the locator bracket comprises: a first receiving member; a second receiving member, each of the first receiving member and the second receiving member comprising: a pressure gauge wall defining a pressure gauge receiving cavity; and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent; and a connector member having a first end, a second end opposite the first end, and a clip hole, the first receiving member provided at the first end of the connector member, the second receiving member provided at the second end of the connector member, wherein a clip is insertable through the clip hole to secure the locator bracket to the primary seat back frame.

12. The seat assembly of claim 11, wherein: the primary seat back frame includes an upper member to which the locator bracket is removably attached, a pair of protrusions are formed on the upper member; and a pair of grooves are spaced apart from one another and formed in a rear surface of the connector member, the pair of grooves receiving the pair of protrusions.

13. The seat assembly of claim 11, wherein: the shaft wall of each of the first receiving member and the second receiving member includes a front end, a rear end opposite the front end, an inner wall, and a tapered wall extending from the inner wall to the front end, the inner wall defines the shaft receiving indent; and the shaft of the first fluid reservoir and the second fluid reservoir is received within.

14. The seat assembly of claim 13, wherein: the shaft wall defines a restriction feature formed at an intersection of the inner wall and the tapered wall; and the restriction feature has a width less than a diameter of the shaft receiving indent and a diameter of the shaft.

15. The seat assembly of claim 11, wherein: a shaft axis extends coaxial to the shaft receiving indent of each of the first receiving member and the second receiving member; and an angle

between an intersection of the shaft axis of the first receiving member and the shaft axis of the second receiving member is equal to or greater than 20 degrees and less or equal to 40 degrees.

16. A vehicle comprising: a passenger compartment; and a seat assembly within the passenger compartment, the seat assembly comprising: a primary seat back frame; a locator bracket removably attached to the primary seat back frame; a first fluid reservoir; and a second fluid reservoir, each of the first fluid reservoir and the second fluid reservoir including: a pressure gauge received within the locator bracket; a shaft received within the locator bracket; and a pressure valve extending from the shaft.

17. The vehicle of claim 16, wherein the primary seat back frame further comprises: a rear cover having a central rear cover portion defining a first receptacle for receiving the first fluid reservoir, and a second receptacle for receiving the second fluid reservoir, the first receptacle and the second receptacle each comprising: a pressure gauge opening aligning a pressure gauge of a respective one of the first fluid reservoir and the second fluid reservoir; and a pressure valve opening for receiving a pressure valve of a respective one of the first fluid reservoir and the second fluid reservoir.

18. The vehicle of claim 16, wherein: the locator bracket comprises: a first receiving member; a second receiving member, each of the first receiving member and the second receiving member comprising: a pressure gauge wall defining a pressure gauge receiving cavity; and a shaft wall extending from the pressure gauge wall and defining a shaft receiving indent, the shaft wall of each of the first receiving member and the second receiving member includes a front end, a rear end opposite the front end, an inner wall, and a tapered wall extending from the inner wall to the front end, the inner wall defines the shaft receiving indent.

19. The vehicle of claim 18, wherein: the shaft wall defines a restriction feature formed at an intersection of the inner wall and the tapered wall; and the restriction feature has a width less than a diameter of the shaft receiving indent and a diameter of the shaft.

20. The vehicle of claim 18, wherein: a shaft axis extends coaxial to the shaft receiving indent of each of the first receiving member and the second receiving member; and an angle between an intersection of the shaft axis of the first receiving member and the shaft axis of the second receiving member is equal to or greater than 20 degrees and less or equal to 40 degrees.