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(54) **CLIP DESIGN FOR ATTACHING A BRACKET TO AN EXISTING BRACKET OR PANEL**

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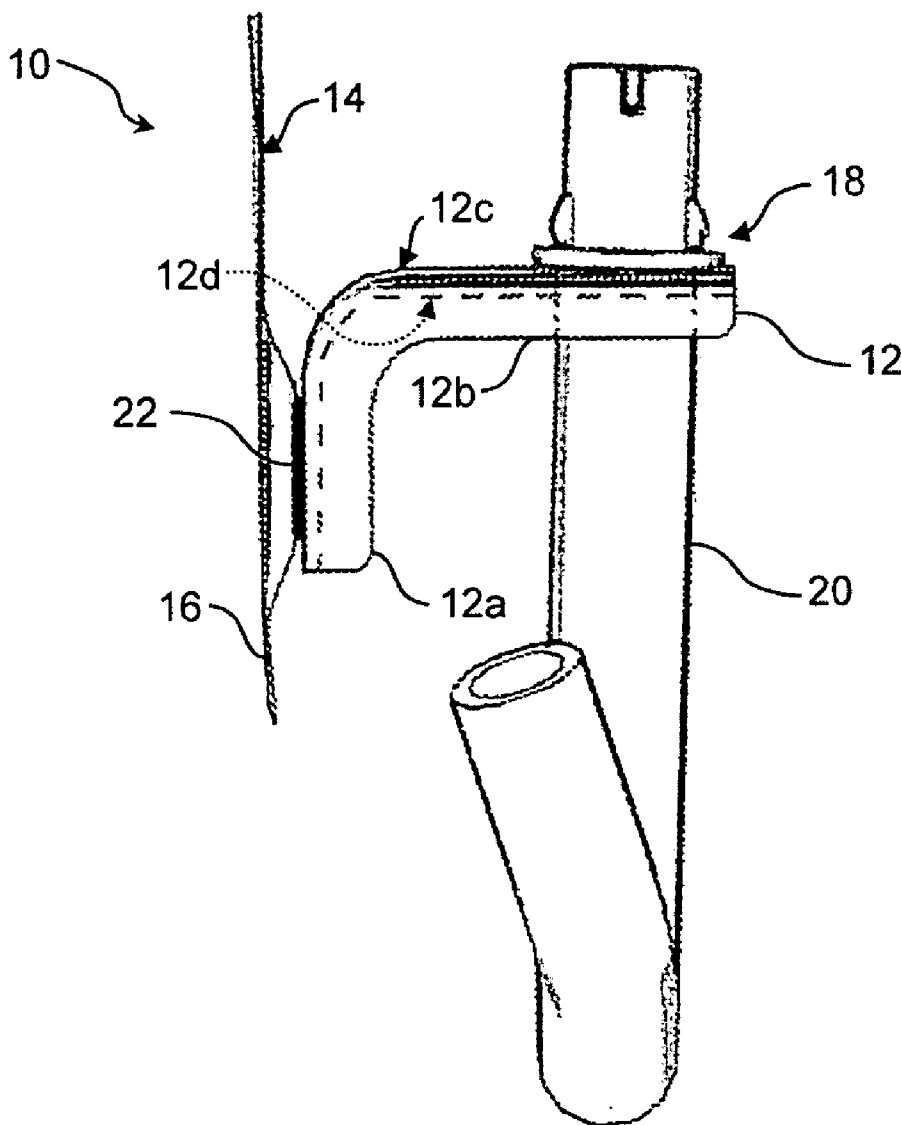
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(57) **ABSTRACT**

A bracket for coupling a component to a vehicle including a mounting structure defining an aperture is disclosed. The bracket has a first portion including at least one mounting structure clip configured to engage the mounting structure about a periphery of the aperture. The bracket also has a second portion including a component clip configured to engage the component.

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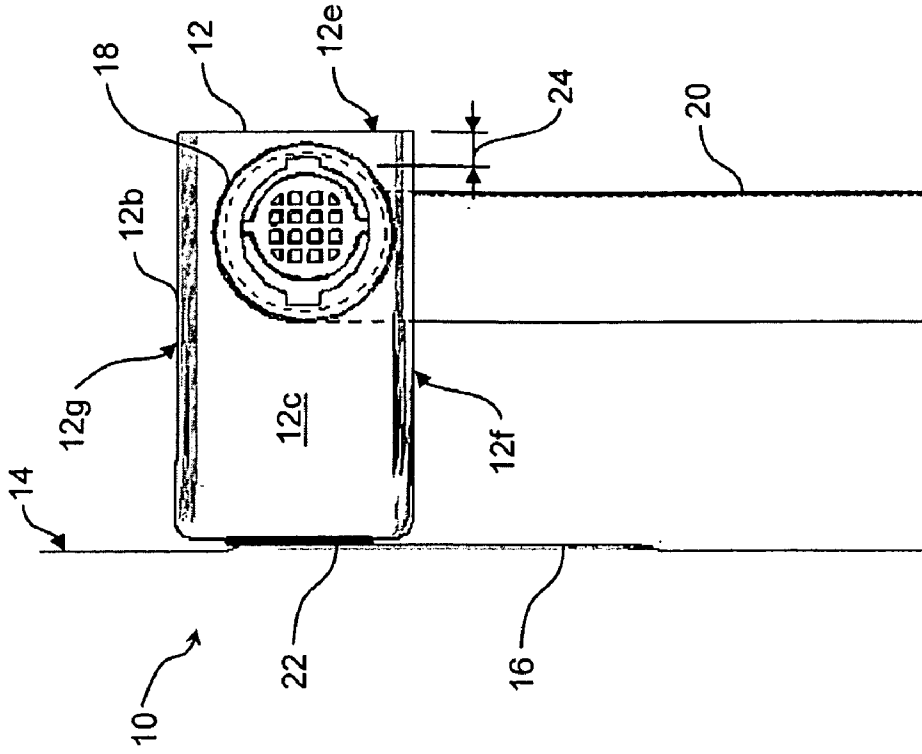


FIG. 1

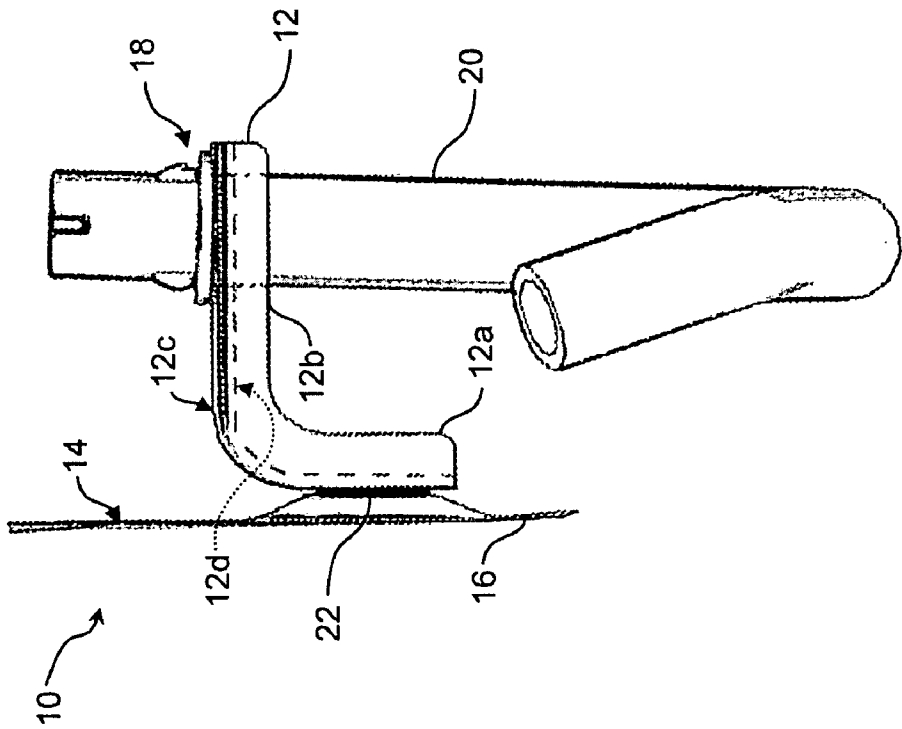


FIG. 2

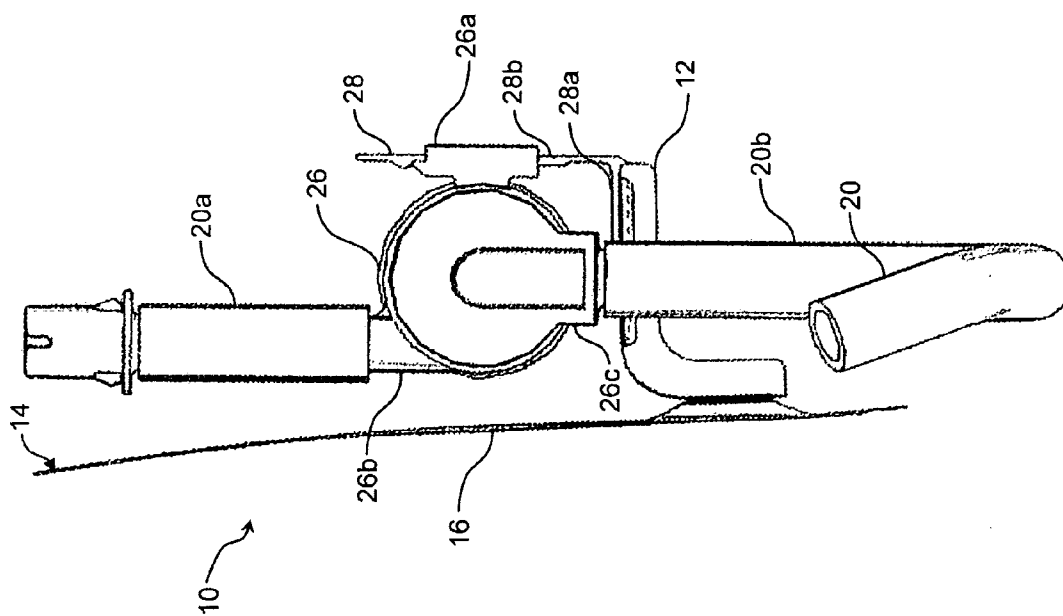


FIG. 3

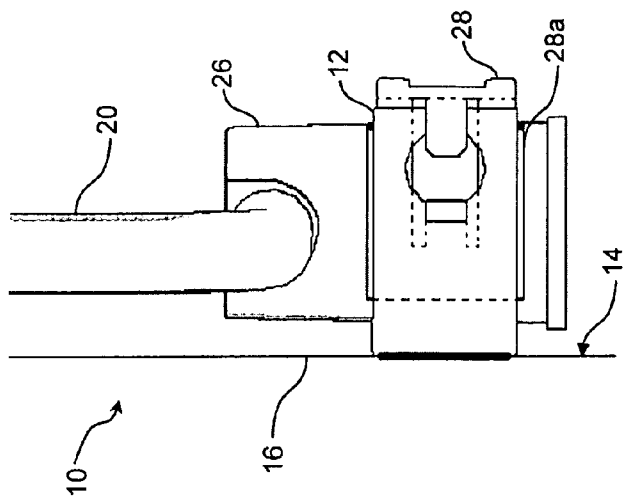


FIG. 4

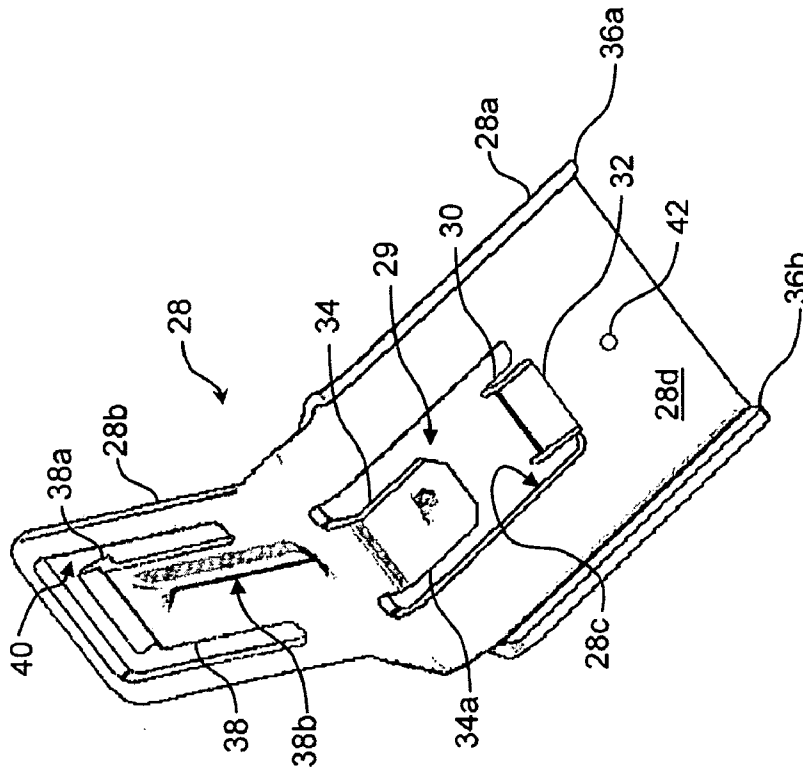


FIG. 6

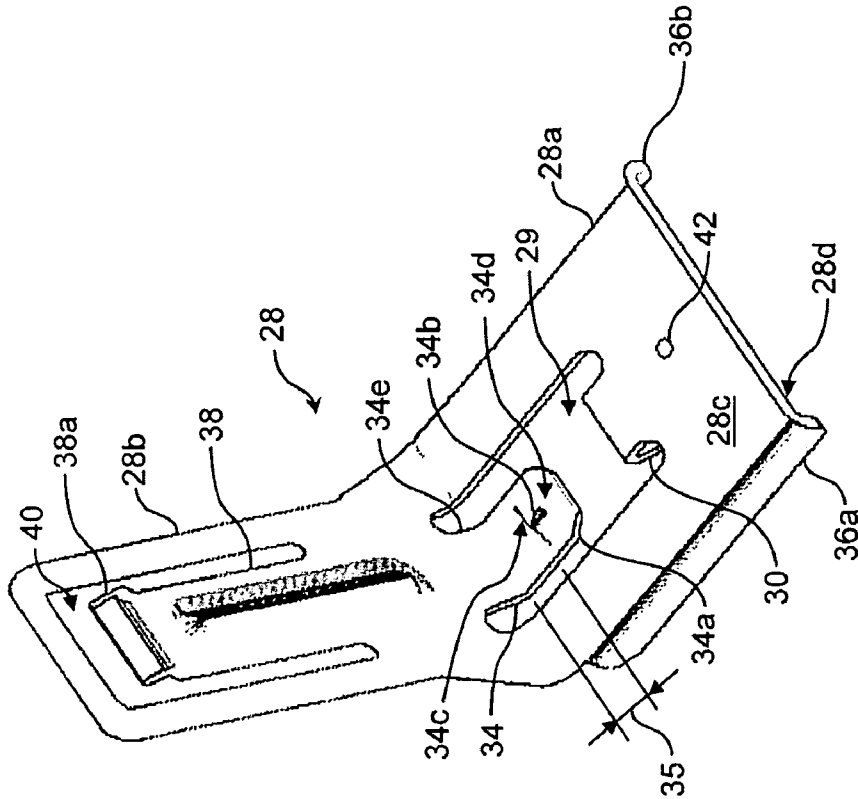


FIG. 5

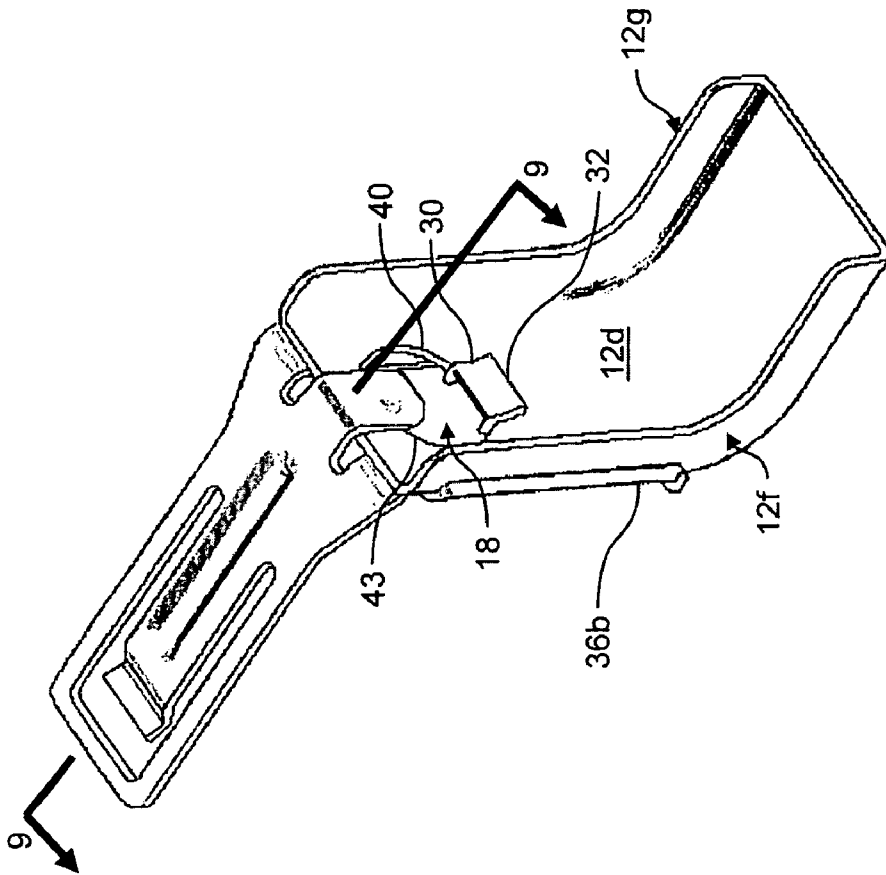


FIG. 7

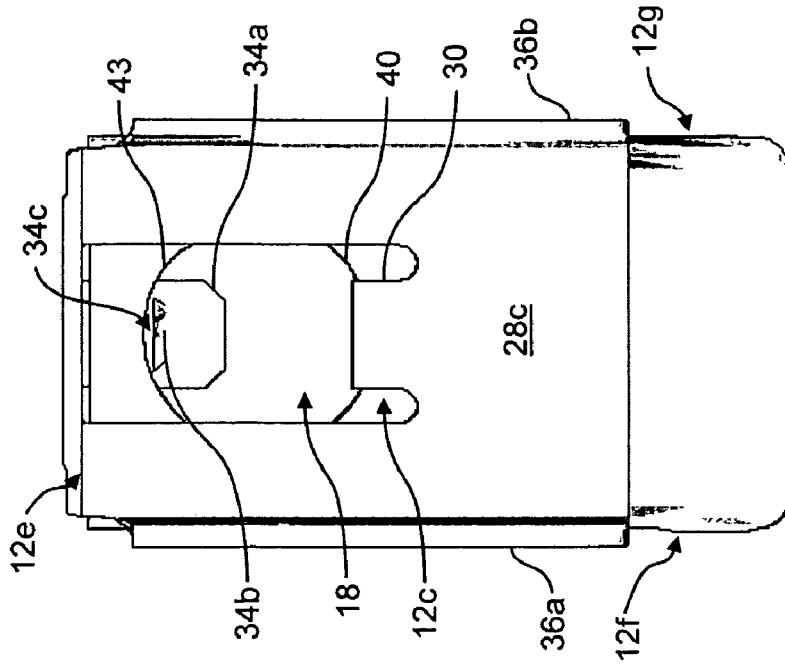


FIG. 8

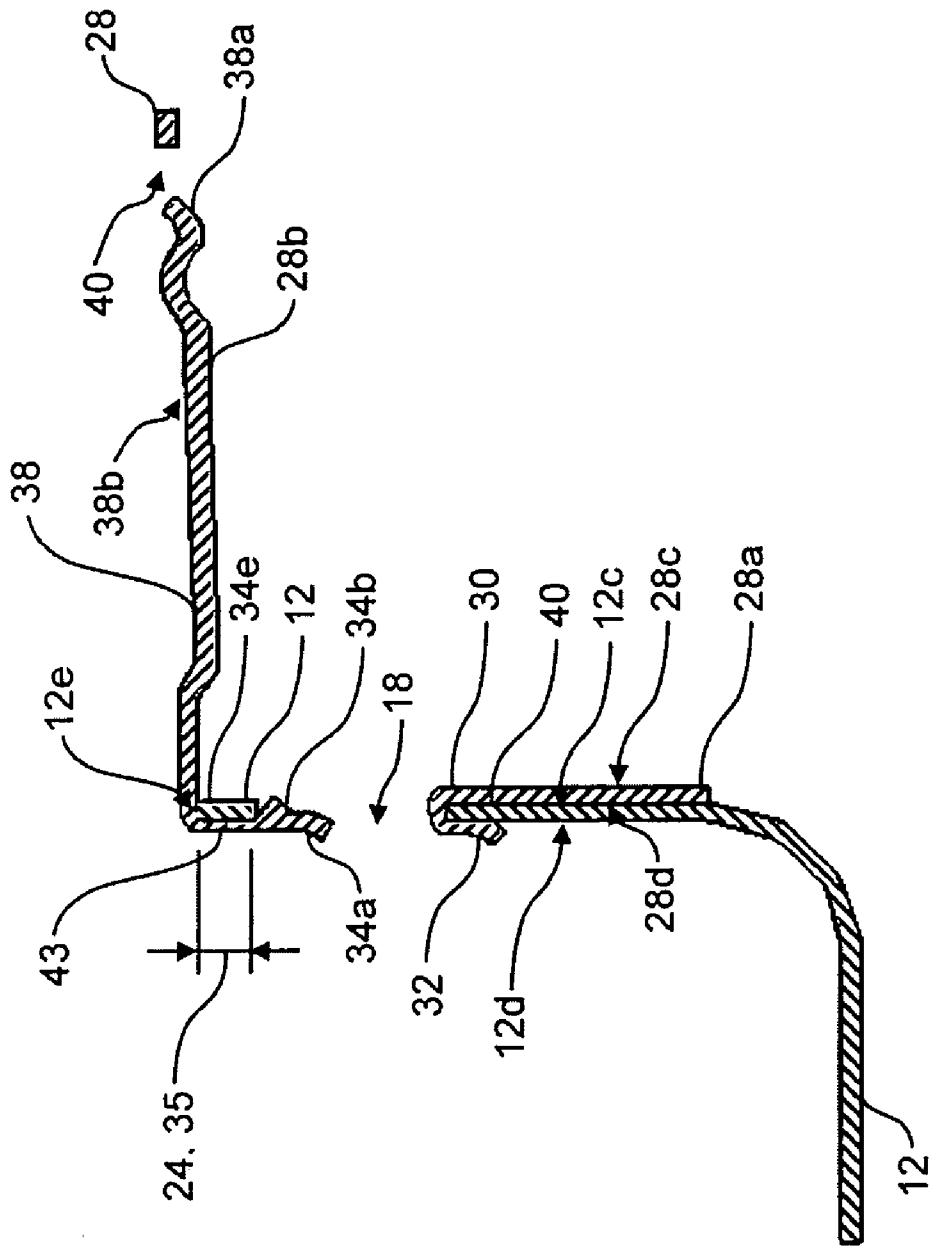


FIG. 9

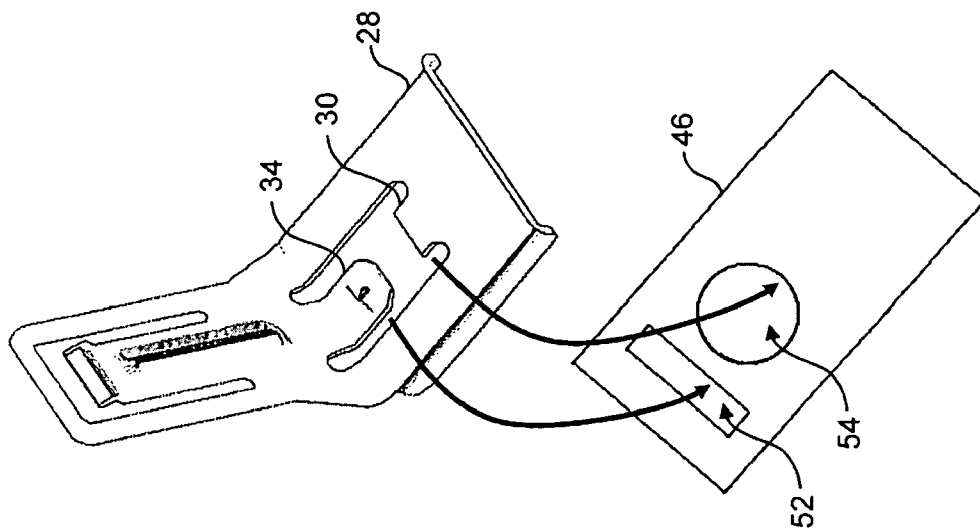


FIG. 10B

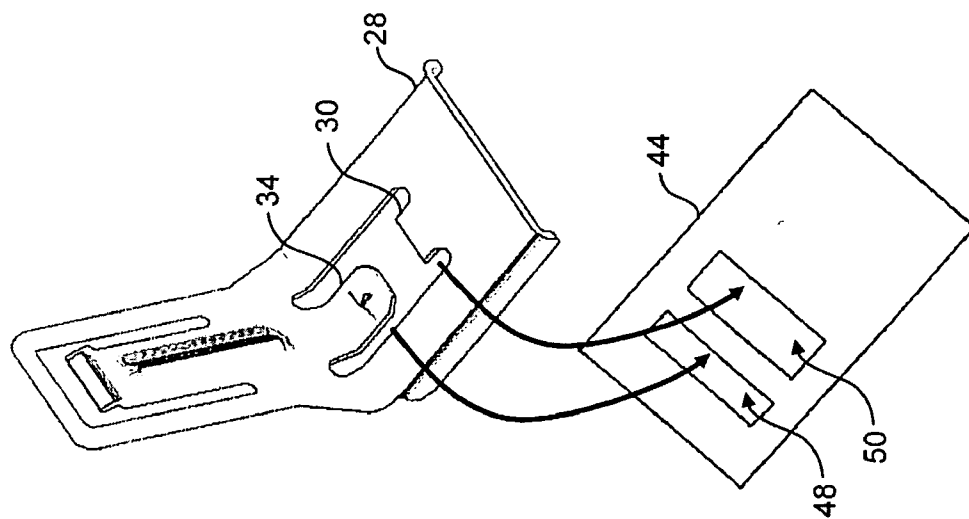


FIG. 10A

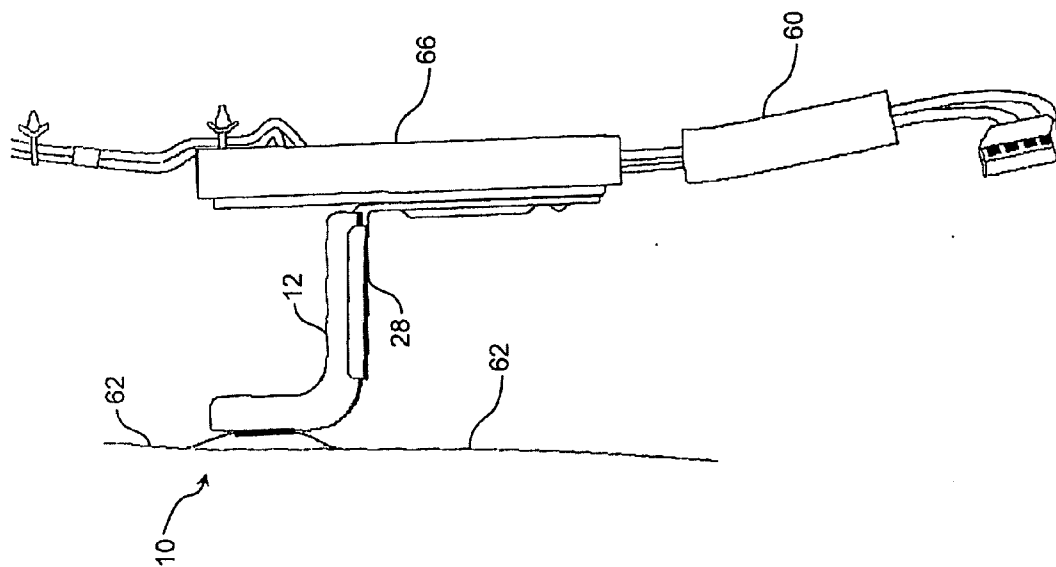


FIG. 11

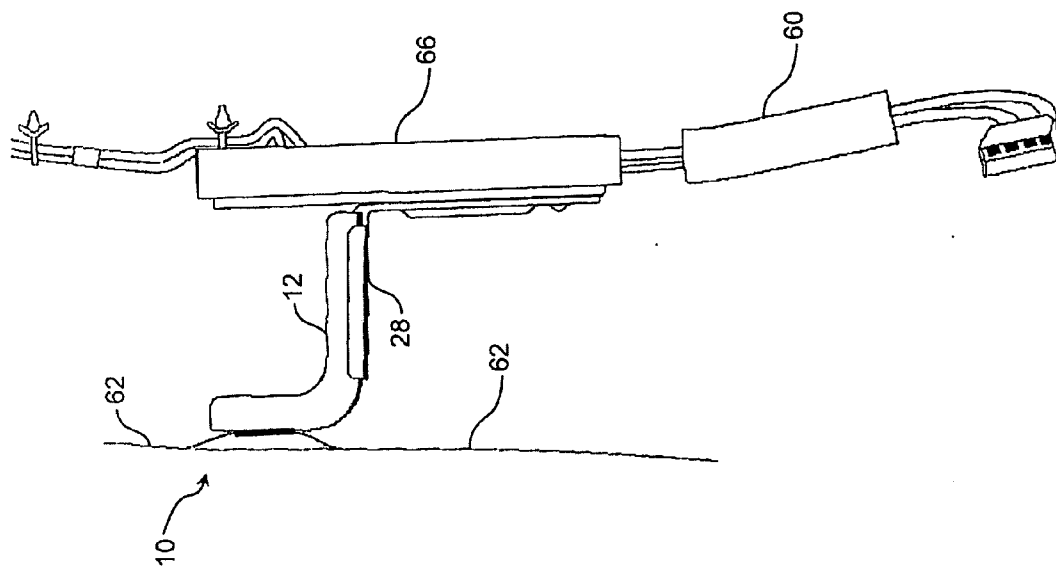


FIG. 12



**CLIP DESIGN FOR ATTACHING A BRACKET TO AN EXISTING BRACKET OR PANEL**

FIELD OF THE INVENTION

[0001] The present invention pertains to a clip design for attaching a component to a mounting structure in a vehicle.

BACKGROUND

[0002] A vehicle may be initially designed for use with an original component. For example, a bracket defining an aperture can be attached to the vehicle, such as by welding the bracket to an interior of a vehicle body panel. The aperture can be sized to receive the original component, which can be, as examples, an air intake hose or a wire harness. The original component can be inserted into the aperture for attachment to the vehicle.

[0003] However, as a result of a technological advance, a design change, or updated vehicle standards, as examples, it may be desirable to modify the vehicle for use with a second component in addition to or instead of the original component. For example, even though a vehicle can include a bracket having an aperture originally designed to receive an air intake hose, it may become desirable to install an air intake hose having an air filter in the vehicle.

SUMMARY

[0004] Examples of a bracket for coupling a component to a vehicle including a mounting structure defining an aperture are described herein. In one example, the bracket has a first portion including at least one mounting structure clip configured to engage the mounting structure about a periphery of the aperture, and the bracket also has a second portion including a component clip configured to engage the component.

[0005] In an example of a method for coupling a component to a vehicle including a primary mounting structure defining an aperture, the method includes attaching the component to a secondary mounting structure including a first clip. The method also includes attaching the secondary mounting structure to the primary mounting structure by engaging the first clip of the secondary mounting structure to the primary mounting structure about a periphery of the aperture.

[0006] In another example, a component mounting assembly for a vehicle is described. The component mounting assembly includes a conduit. A primary mounting bracket is attached to the vehicle. The primary mounting bracket has a primary bearing surface defined by at least three lateral sides, and a first aperture through the primary bearing surface. The first aperture is sized to permit insertion of the conduit there-through. A secondary mounting bracket has a secondary bearing surface engaging the primary bearing surface of the primary mounting bracket, and the secondary mounting bracket also has a first clip depending from the secondary bearing surface and engaging the primary bearing surface. The first clip protrudes through the first aperture of the primary mounting bracket.

A component is attached to the secondary mounting bracket and to the conduit.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The description herein makes reference to the accompanying drawings wherein like reference numerals refer to like parts throughout the several views, and wherein:

[0008] FIG. 1 is a front elevation view of a conduit extending through an aperture in a primary mounting structure attached to a vehicle;

[0009] FIG. 2 is a top plan view of the conduit, primary mounting structure, and vehicle of FIG. 1;

[0010] FIG. 3 is a front elevation view of a component attached to the primary mounting structure of FIG. 1 by engaging a secondary mounting structure with the primary mounting structure;

[0011] FIG. 4 is a bottom plan view of the component attached to the primary mounting structure of FIG. 1 by engaging the secondary mounting structure to the primary mounting structure including a portion of the secondary mounting structure in phantom;

[0012] FIG. 5 is a perspective view of the secondary mounting structure of FIGS. 3 and 4;

[0013] FIG. 6 is another perspective view of the secondary mounting structure of FIGS. 3 and 4;

[0014] FIG. 7 is a perspective view of the secondary mounting structure engaged with the primary mounting structure;

[0015] FIG. 8 is a top plan view of the secondary mounting structure engaged with the primary mounting structure;

[0016] FIG. 9 is a cross section of FIG. 7 along line 9-9;

[0017] FIGS. 10A and 10B are exploded perspective views of the secondary mounting structure of FIGS. 5 and 6 and two alternative primary mounting structures;

[0018] FIG. 11 is a front elevation view of a wire harness coupled to a vehicle instrument panel; and

[0019] FIG. 12 is a front elevation of the assembly of FIG. 11 retrofitted to include an additional component.

DETAILED DESCRIPTION

[0020] As shown in FIGS. 1 and 2, a vehicle 10 can include a primary mounting structure, here an original bracket 12, attached to an interior side 14 of a vehicle body panel 16. The bracket 12 can be used for attaching a conduit, such as an air intake hose 20 as shown in FIGS. 1 and 2, a wire harness 60 as shown in FIG. 11, or a liquid carrying conduit, to the vehicle 10. The vehicle 10 can be any type of vehicle, such as a sedan, SUV, or semi-truck.

[0021] Still referring to FIGS. 1 and 2, the original bracket 12 can define an aperture 18, and the air intake hose 20 or other conduit can be attached to the bracket 12 by being inserted through the aperture 18. The bracket 12 can be permanently attached to the vehicle 10 by forming a weld 22 between the bracket 12 and body panel 16, by adhering the bracket 12 to the body panel 16, or by other means. The bracket 12 can also be attached to the vehicle 10 using one or more clips or bolts, and/or other attachment structures. Also, the bracket 12 can be attached to an interior portion of the vehicle 10 other than the interior 14 of the body panel 16 shown in FIGS. 1 and 2, such as a portion inside the space defined by the body panels of the vehicle 10. Examples of other possible interior portions of the vehicle 10 to which the bracket 12 can be attached include an interior of an instrument panel 62 as shown in FIG. 11 and a chassis of the vehicle 10. Instead of the illustrated bracket 12, a different primary mounting structure can be used to attach the hose 20 to the vehicle 10, such as another type of bracket, a panel, a flange, a clamp, or another structure, each of which can define the aperture 18.

[0022] The original bracket 12 can be generally L-shaped, with the bracket 12 including a first portion 12a attached to the vehicle 10 and a second portion 12b angled generally

perpendicularly to the first portion **12a** as shown in FIG. 1. Alternatively, the first and second portions **12a** and **12b** can be angled non-orthogonally relative to one another. The second portion **12b** can include a primary bearing surface **12c** and a secondary bearing surface **12d** opposite the primary bearing surface **12c**. The primary and secondary bearing surfaces **12c** and **12d**, respectively, can share three lateral sides **12e**, **12f** and **12g**, and the lateral side **12e** of the bracket **12** can be spaced from the aperture **18** by a distance **24** as shown in FIG. 2.

[0023] The aperture **18** can extend between the primary and secondary bearing surfaces **12c** and **12d**, respectively, and the aperture **18** can be sized to permit insertion of the hose **20**. For example, the diameter of the aperture **18** can depend on the flexibility of the hose **20**, and the aperture **18** can have a diameter at least as large as the hose **20** if the hose **20** is not sufficiently flexible to be deformed for insertion through a smaller aperture. As another example, the aperture **18** can be sized such that friction is generated during insertion of the hose **20** in order to require the friction between the aperture **18** and hose **20** to be overcome to remove the hose **20** from the aperture **18**. Also, the aperture **18** can be circular as shown, or can alternatively be shaped like an oval, octagon, or another shape corresponding to the shape of the hose **20**. A spacer or other structure can be attached to a perimeter of the aperture **18** or hose **20** to secure the hose **20** to the bracket **12**.

[0024] However, the vehicle **10** may not be originally designed for use with another component, such as an air filter **26** that is shown in FIG. 3, an electric component **66** for connection to a wire carried by the wiring harness **60** shown in FIG. 12, or some other component. For example, the air filter **26** may need to be mounted at some location along the hose **20**; however, the air filter **26** may have too large a diameter for insertion into the aperture **18** defined by the bracket **12**. As another example of the vehicle **10** not being specifically designed for use with the air filter **26**, the vehicle **10** may not have any structure for attaching the air filter **26** to the vehicle **10** that is located in a portion of the vehicle **10** in which the air filter **26** should be installed.

[0025] Referring to FIG. 3, a secondary mounting structure, such as a second bracket **28**, can be provided (e.g., manufactured, purchased, or otherwise obtained) to enable the air filter **26** or other component that the vehicle **10** was not originally designed to receive to be attached to the vehicle **10** as shown in FIGS. 3 and 4. As a result, the vehicle **10** can be retrofitted to include the air filter **26** or other component. The vehicle **10** can be retrofitted to include the air filter **26** even if the hose **20** has not been attached to the vehicle **10** prior to engagement of the second bracket **28** with the vehicle **10**. For example, the vehicle **10** can be considered to have been retrofitted even if the air filter **26** is installed during initial manufacturing of the vehicle **10**.

[0026] As shown in FIGS. 3 and 4, the second bracket **28** can have a first portion **28a** for engagement with the original bracket **12** and a second portion **28b** for engagement with the air filter **26**. The first and second portions **28a** and **28b** can be perpendicular to one another as shown, though the second bracket **28** can have an alternative shape. While shown as being discrete from the air filter **26**, the second bracket **28** can alternatively be formed integrally with the air filter **26** (e.g., by forming a housing portion of air filter **26** to include the second bracket **28**).

[0027] Referring now to FIGS. 5 and 6, the first portion **28a** of the second bracket **28** can include a first bearing surface

**28c** and a second bearing surface **28d** opposite the first bearing surface **28c**. The first portion **28a** of the second bracket **28** can include an H-shaped cutout **29** partially defining a first clip **30** and a second clip **34**. The first clip **30** can be generally U- or hook-shaped, and it can include a clasp portion **32** that is spaced from the second bearing surface **28d** by a distance equal to or slightly greater than a thickness of a portion of the original bracket **12** which the first clip **30** engages, such as a peripheral portion **40** of the original bracket **12** that borders the aperture **18**, as discussed below in greater detail in reference to FIGS. 7 and 8. The distal end of the clasp portion **32** can be angled away from the second bearing surface **28d** of the second bracket **28** to ease engagement of the first clip **30** to the original bracket **12**. However, the clip **30** can alternatively have another shape depending on the geometry of the original bracket **12**.

[0028] While the second clip **34** is shown as depending from the second portion **28b** of the second bracket **28**, the second clip **34** can alternatively depend from the portion of the second bracket **28** at the junction of the first and second portions **28a** and **28b**, or from the first portion **28a** of the second bracket **28**, depending on, for example, the geometries of the original and second brackets **12** and **28**, respectively. The second clip **34** can include an offset portion **34a** spaced from the second bearing surface **28d** by a distance equal to or slightly greater than the thickness of a portion of the original bracket **12** which the second clip **34** engages, such as a peripheral portion **43** of the original bracket **12** that borders the aperture **18** of the original bracket **12** opposite the peripheral portion **40** (the peripheral portion **43** is discussed below in greater detail in reference to FIGS. 7 and 8). The distal end of the offset portion **34a** can be angled away from the second bearing surface **28d** of the second bracket **28** to ease engagement of the second clip **34** to the original bracket **12**.

[0029] Still referring to FIGS. 5 and 6, a nub or tooth **34b** can project toward the second bearing surface **28d** from near a distal end of the offset portion **34a**. The tooth **34b** can have a first surface **34c** angled perpendicularly to the offset portion **34a** of the second clip **34**, and a second surface **34d** of the tooth **34b** can be angled obliquely to the offset portion **34a** of the second clip **34**. The angle of the second surface **34d** can ease engagement of the second clip **34** with the original bracket **12**, while the angle of the first surface **34c** can enhance the engagement between the second clip **34** and the original bracket **12**. A distance **35** between the first surface **34c** and a backwall **34e** of the second clip **34** that is generally parallel with the first surface **34c** can be equal to or slightly greater than the distance **24** between the lateral edge **12e** and the aperture **18** of the original bracket **12**.

[0030] The second portion **28b** of the second bracket **28** can include a third clip **38**. The third clip **38** can be defined by a U-shaped cut-out **40** in the second portion **28b** of the second bracket **28**. The third clip **38** can be shaped like a prong, with a free distal end and a proximal end fixed to the second portion **28b** of the second bracket **28**. The distal end of the third clip **38** can include a lateral ridge forming bend **38a**, while a side of the third clip **38** facing away from the first portion **28a** of the second bracket **28** can define a recessed groove **38b** extending from adjacent the bend **38a** to past the fixed end of the clip **38**.

[0031] The second bracket **28** can also have other features. For example, the first portion **28a** of the second bracket **28** can define an aperture **42**. As another example, the second bracket **28** can also include a pair of flanges **36a** and **36b** running the

length of two opposing side edges of the first portion **28a** and extending away from the second bearing surface **28d**. The flanges **36a** and **36b** can be spaced such that the original bracket **12** can fit snugly therebetween. As a result, the flanges **36a** and **36b** can help stabilize the second bracket **28** when it is engaged with the original bracket **12**.

[0032] When the hose **20** is detached from the aperture **20**, the second bracket **28** can be engaged with the original bracket **12**. The first clip **30** can be inserted into the aperture **18**, and the second bracket **28** can be moved into an engagement position shown in FIGS. 7-9. In the engagement position, the first clip **30** can engage the peripheral portion **40** of the original bracket **12** bordering the aperture **18**. Since the clasp portion **32** can be spaced from the second bearing surface **28d** by the thickness of the peripheral portion **40** of the original bracket **12**, the clasp portion **32** can engage the secondary bearing surface **12d** of the original bracket **12**. The clip **30** can thus sandwich the peripheral portion **40** of the original bracket **12** (i.e., in addition to the clasp portion **32** engaging the secondary bearing surface **12d**, a proximate end of the first clip **30** can engage the primary bearing surface **12c** of the original bracket **12**).

[0033] Also in the engagement position shown in FIGS. 7-9, a portion of the original bracket **12** between the lateral side **12e** and the aperture **18** can be engaged by the second clip **34**. Since the distance **35** between the tooth **34b** and the backwall **34e** can be equal to or slightly greater than the distance **24** between the lateral side **12e** and aperture **18** of the original bracket **12**, the portion of the original bracket **12** between the lateral side **12e** and the aperture **18** can be positioned between the tooth **34b** and the backwall **34e** of the second clip **34**. As a result, the tooth **34b** can engage the peripheral portion **43** of the original bracket **12**, which can be on the opposite side of the aperture **12** from the peripheral portion **40** as shown in FIG. 9. Also, with the original bracket **12** in the engagement position, the offset portion **34a** of the second clip **34** can engage the secondary bearing surface **12d** of the original bracket, and the lateral side **12e** of the original bracket **12** can engage the backwall **34e**.

[0034] With the first and second clips **30** and **34**, respectively, of the second bracket **28** engaging the original bracket **12** as shown in FIGS. 7-9, the second bearing surface **28d** of the second bracket **28** can be held against the primary bearing surface **12c** of the original bracket **12**, thereby engaging the primary bearing surface **12c**. Further, the flanges **36a** and **36b** can engage the lateral sides **12f** and **12g** of the original bracket **12**. As a result of the engagements between the second bracket **28** and the original bracket **12**, the second bracket **28** can be secured to the vehicle **10**. However, the second bracket **28** can be engaged to the original bracket **12** using a different structure. For example, the second bracket **28** can include different shaped clips **30** and **34** that engage first and second engagement portions, respectively, of the original bracket **12** other than the peripheral portions **40** and **43** bordering opposite sides of the aperture **18**. Such alternative first and second engagement portions can include, as examples, the lateral sides **12f** and **12g** of original bracket **12**. As additional examples of different structures that the second bracket **28** can include to engage the original bracket **12**, the second bracket **28** can define apertures to receive bolts or screws for bolting or screwing the second bracket **28** to the original bracket **12**, or the second bracket **28** can include a solid, planar first portion to enhance a weld or adherence between the second bracket **28** and the original bracket **12**.

[0035] The third clip **38** can be engaged with a first attachment of the air filter **26**. For example, the third clip **38** and the remainder of the second portion **28b** of the second bracket **28** can engage a flange **26a** shown in FIG. 3 or a similar structure defined by the air filter **26**, and the flange **26a** of the air filter **26** can include a boss or other projection for engagement with the bend **38a** of the third clip **38**. By engaging the second bracket **28** to both the air filter **26** and the original bracket **12**, the second bracket **28** can attach the air filter **26** to the original bracket **12**. Additionally, the hose **20** can be spliced into a first section **20a** and a second section **20b** as shown in FIG. 3., and the first and second sections **20a** and **20b** can be coupled to second attachments (e.g., input and output ports **26b** and **26c**, respectively) of the air filter **26** using, for example, clamps or friction fits. Alternatively, the air filter **26** can include an integral hose, or a new hose can be used, and hose **20** can be discarded (if it was ever installed).

[0036] By attaching the air filter **26** to the vehicle **10** by engaging the air filter **26** with the second bracket **28** and the second bracket **28** with the original bracket **12**, the air filter **26** can be inexpensively and conveniently attached to the vehicle **10**. For example, the first and second clips **30** and **34**, respectively, of second bracket **28** can enable the air filter **26** to be attached to the vehicle **10** without performing a welding or bolting operation (though, as mentioned above, the second bracket **28** can be attached in an alternative manner). Further, the first and second clips **30** and **34** can be unclipped from the original bracket **12**, allowing the second bracket **28** to be removably attached to the original bracket **12**. Removably attaching the second bracket **28** can enable a later retrofit (e.g., a second retrofit if it becomes desirable to attach a second component to the vehicle **10** instead of the air filter **26**).

[0037] Depending on whether the air filter **26** is being installed in the vehicle **10** after the hose **20** has been engaged with the original bracket **12**, the steps taken to retrofit the vehicle **10** to include the air filter **26** can differ. For example, if the hose **20** has been installed, the hose **20** can be removed by detaching at least one end of the hose **20**, and then pulling the detached end of the hose **20** until it is disengaged from the aperture **18**. The other end of the hose **20**, if still attached to a portion of the vehicle **10**, can also be removed. Since the hose **20** is removed following this step, the remaining steps can be the same regardless of whether the hose **20** has been attached to the original bracket **12**. The remaining steps to retrofit the vehicle **10** can include engaging the second bracket **28** to the air filter **26** as described above, engaging the second bracket **28** to the original bracket **12** also as described above, and engaging the hose **20** with the air filter **26** as described above. These three steps need not necessarily be performed in the above order.

[0038] While second bracket **28** is described above as being attached to the original bracket **12** defining a single aperture **18**, the second bracket **28** can alternatively be attached to other structures, such as different brackets, a panel, a flange, or another primary mounting structure. As examples, the second bracket **28** can be attached to each of brackets **44** and **46** shown in FIGS. 10A and 10B, respectively. The bracket **44** of FIG. 10A can include two slots **48** and **50**, and the first clip **30** of the second bracket **28** can be engaged with the slot **50** by inserting the clasp **32** into the slot **50**. The tooth **34b** of the second clip **34** can be engaged with the slot **50** by inserting the offset portion **34a** through the slot **48**. With this engagement, the backwall **34e** of the second clip **34** engages a periphery of

the slot 48. Similarly, the second bracket 28 can engage the bracket 46 of FIG. 10B by inserting the offset portion 34a of the second clip 34 through a slot 52 defined by the bracket 46 and engaging the first and second clips 30 and 34, respectively, of the second bracket 28 with a circular aperture 54 defined by the bracket 46. With this engagement, the backwall 34e of the second clip 34 engages a periphery of the slot 52. [0039] Also, while the second bracket 28 is described as being used to attach the air filter 26 to the vehicle 10, it can alternatively be used to attach a different component (e.g., another component that the vehicle 10 was not designed to receive) to the vehicle 10. As shown in FIG. 11, the original bracket 12 may be used to secure the wire harness 60 to the interior of the instrument panel 62. The wire harness 60 can be removed from the original bracket 12, if attached, and the second bracket 28 can be coupled to the original bracket 12. An electrical component 66 that cannot be attached to the aperture 18 of the original bracket 12 can be attached to second bracket 28, and thus attached to the vehicle 10 as shown in FIG. 12.

[0040] While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiments but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims, which scope is to be accorded the broadest interpretation so as to encompass all such modifications and equivalent structures as is permitted under the law.

What is claimed:

1. A bracket for coupling a component to a vehicle including a mounting structure defining an aperture, the bracket comprising:

- a first portion including at least one mounting structure clip configured to engage the mounting structure about a periphery of the aperture; and
- a second portion including a component clip configured to engage the component.

2. The bracket of claim 1, wherein the at least one mounting structure clip includes a first clip and a second clip.

3. The bracket of claim 2, wherein the first and second clips are configured to engage diametrically opposing portions of the periphery of the aperture.

4. The bracket of claim 2, wherein the first clip is hook-shaped and includes two hook portions spaced apart by a thickness of the mounting structure about the periphery.

5. The bracket of claim 4, wherein the second clip includes a tooth that projects into the aperture and a backwall that engages an edge of the mounting structure spaced from the aperture when the bracket is engaged with the mounting structure.

6. The bracket of claim 2, wherein a proximal end of the first clip is configured to engage a first side of the mounting structure and a distal end of the first clip and the second clip are configured to engage a second side of the mounting structure opposing the first side.

7. The bracket of claim 1, wherein the first portion includes a pair of flanges spaced approximately equal to a width of the mounting structure such that the flanges contact respective side surfaces of the mounting structure.

8. A method for coupling a component to a vehicle including a primary mounting structure defining an aperture, the method comprising:

attaching the component to a secondary mounting structure including a first clip; and

attaching the secondary mounting structure to the primary mounting structure by engaging the first clip of the secondary mounting structure to the primary mounting structure about a periphery of the aperture.

9. The method of claim 8, wherein the secondary mounting structure includes a second clip, and wherein attaching the secondary mounting structure to the primary mounting structure further comprises engaging the second clip to the primary mounting structure.

10. The method of claim 9, wherein the primary mounting structure defines at least one lateral edge spaced apart from the aperture, and wherein engaging the second clip to the primary mounting structure includes engaging the second clip with the lateral edge.

11. The method of claim 9, wherein engaging the second clip to the primary mounting structure includes engaging the second clip to the primary mounting structure about the periphery of the aperture diametrically opposite the first clip.

12. The method of claim 8, further comprising attaching a conduit to the component.

13. The method of claim 12, wherein the conduit is one of a wire harness and a hose.

14. The method of claim 8, wherein the primary mounting structure is attached to an interior of a vehicle panel.

15. The method of claim 14, wherein the vehicle panel is one of an instrument panel and a body panel.

16. A component mounting assembly for a vehicle comprising:

a conduit;

a primary mounting bracket attached to the vehicle;

the primary mounting bracket having a primary bearing surface defined by at least three lateral sides, a first aperture through the primary bearing surface, the first aperture sized to permit insertion of the conduit through;

a secondary mounting bracket having a secondary bearing surface engaging the primary bearing surface of the primary mounting bracket, the secondary mounting bracket having a first clip depending from the secondary bearing surface and engaging the primary bearing surface, wherein the first clip protrudes through the first aperture of the primary mounting bracket; and

a component attached to the secondary mounting bracket and to the conduit.

17. The component mounting assembly of claim 16, wherein the secondary mounting bracket further comprises a second clip spaced apart from the secondary bearing surface by a distance approximately equal to a thickness of the primary mounting bracket about the first aperture, the second clip including a tooth projecting into the first aperture toward the primary bearing surface that engages a periphery of the primary mounting bracket about the first aperture, and the second clip having a backwall engaging at least one of the lateral sides of the primary mounting structure.

18. The component mounting assembly of claim 16, wherein the primary bearing surface has a second aperture spaced from the first aperture; and

wherein the secondary mounting bracket further comprises a second clip spaced apart from the secondary bearing surface by a distance approximately equal to a thickness of the primary mounting bracket about the second aperture, the second clip including a tooth projecting into the first aperture toward the primary bearing surface that engages a first periphery of the primary mounting bracket about the first aperture, and the second clip having a backwall engaging a second periphery of the primary mounting bracket about the second aperture.

**19.** The component mounting assembly of claim **16**, wherein the first clip defines a clasp portion spaced from the secondary bearing surface by a distance approximately equal to a thickness of the primary mounting bracket about the first aperture.

**20.** The component mounting assembly of claim **16**, wherein the secondary mounting bracket includes a portion angled relative to the secondary bearing surface and including a third clip engaged with the component.

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