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DUAL WHEEL KIT "GAMURA" INSTALLATION INSTRUCTIONS

SAFETY REMINDERS

1. **SECURE THE VEHICLE:** Ensure the vehicle is securely lifted and properly supported with jack stands before working underneath it.
2. **KEEP YOUR WORK AREA ORGANIZED:** Keep all tools, hardware, and components organized to prevent misplacement or incorrect installation.
3. **FOLLOW TORQUE SPECIFICATIONS:** Always follow the manufacturer's specified torque values to ensure proper installation and safe vehicle operation.

OEM REAR TRAILING ARM REMOVAL

1. Disconnect the negative cable from the battery terminal and secure it away from the terminal.
2. Remove the rear deck flanged-head bolts and lift the rear deck as far as possible out of the way (FIG.1-4). Place a small cardboard box or similar suitable support between the vehicle chassis and the deck to keep it elevated.
3. Remove the left- and right-side rocker panels (FIG.1-4).
4. Remove the rear diffuser (Carmel models).
5. Remove the rear splash guard.
6. Remove the hood.
7. Secure the front wheels using wheel chocks. Lift the rear of the vehicle and ensure it is securely supported with jack stands before proceeding.
8. Remove the rear wheel.
9. Disconnect the flexible brake line from the brake caliper.
10. Remove both ABS sensors from the wheel hub adapter.
11. Remove the rear brake caliper from the wheel hub adapter.
12. Remove the rear wheel hub.
13. Remove the cable clamps to release the brake cables and ABS wires.
14. Remove the M16 lock nuts and pull out the M16-110 mm yellow hex-head bolts from both sides of the vehicle's rear trailing arm.
15. Remove the lower M12 socket-head cap bolt from the rear shock absorber to separate the shock absorber from the trailing arm.
16. Remove the rear trailing arm from the vehicle.
17. Remove the rear shock absorber.

KDS DUAL WHEEL KIT INSTALLATION

4TH HYDRAULIC LINE INSTALLATION

1. Remove the engine coolant reservoir. Remove the mounting screws for the vehicle chassis stiffening bar located above the intake manifold, and move the bar aside to gain access to the area behind the engine.
2. Straighten the included 3/16-inch steel brake line.
3. Using a mini tubing cutter, cut off approximately 1 inch from the end of the brake line to create a fresh, clean cut.
4. Slide one included stainless-steel brake line fitting onto the freshly cut end of the brake line.
5. Using a brake-line flaring tool, create a double-flare at the freshly cut end of the brake line. Use masking tape to temporarily secure the brake-line fitting near the flared end.
6. Using a marker, measure and mark the brake line at 2 inches, 12 inches, 36 inches, and 53 inches from the double-flared end.
7. Using the included brake-line bending tool:
 - Bend the line 90° downward at the 2-inch mark.
 - Keeping the 2-inch section facing downward, bend the line 90° counterclockwise at the 12-inch mark in the horizontal plane.
 - Maintaining the same orientation, bend the line 90° downward at the 36-inch mark.
 - At the 53-inch mark, bend the line 90° away from the flared end, keeping this section parallel to the section between the 12-inch and 36-inch marks.
8. From the engine compartment, feed the non-flared end of the brake line outward through the cutout for the existing fuel and brake lines located on the passenger side of the engine bay, behind the lower control arm.
9. Place the shaped brake line into the gap between the brake booster cylinder and the chassis horizontal panel.
10. Remove the plug from the **"LR"** terminal on the ABS control unit. Connect the double-flared end of the new brake line to the terminal.
11. Using fir-tree push-mount cable ties, secure the new brake line to the firewall at a minimum of four points. Wrap adhesive foam pads around the brake line where necessary to prevent contact with other components and the vehicle chassis. Cut foam pads to smaller pieces if necessary. This will help prevent rattling or vibration noise.
12. After connecting and securing the brake line in the engine compartment, bend the line 90° backward and route it along the existing fuel and brake lines. Move the existing wiring harness out of the way by cutting the existing zip ties as necessary. Secure the new brake line to the existing lines using the included zip ties. Secure the wire harness back after securing brake lines.
13. Remove the existing rear flexible brake line from the steel brake line and slide the end fitting away from the bubble flare.

14. Cut the existing bubble flare using a mini cutting tool. Using the flaring tool, create a double flare on the end of the line. Connect the included double-flare union fitting to the newly created double-flared end.
15. Position the hydraulic brake line support bracket against the vehicle as shown in FIG.7-9. Drill two 5/16-inch diameter holes.
16. Attach the support bracket using two M8 × 1.25 × 20 mm screws and M8-1.25 nylon-insert lock nuts.
17. Secure the long flexible brake lines to the support bracket using the included stainless-steel clips, as shown in FIG.9.
18. Bend the new brake line toward the lower flexible brake line as shown in FIG.8. Create a slight wave or loop in the line to provide additional length and allow for movement. Cut the line to the required length, slide the included flare nut onto the brake line and create a double flare.
19. Using the remaining steel brake line, create an extension for the existing brake line and connect it to the new union fitting FIG.10. Route the extension toward the upper flexible brake line. Cut the extension to the required length and create a double flare. Connect the extension to the upper flexible brake line.

EMERGENCY BRAKE CONVERSION KIT INSTALLATION

1. Remove the emergency brake lever assembly. Remove the existing emergency brake cable and cable housing. Remove the existing cable adjuster located behind the emergency brake lever assembly.
2. Position the new emergency brake cable bracket against the underside of the vehicle as shown in FIG.11-12. Ensure the foam padding is positioned against the fuel tank and the bracket centerline is aligned with the existing hole for the cable adjuster not the vehicle centerline.
3. Mark the centers of the bracket mounting holes. Drill 5/16-inch diameter holes through the rear wall between the two floor layers.
4. Drill 3/4-inch diameter access holes through the upper layer of the cabin floor. Refer to FIG.13 for the access-hole locations.
5. Install the bracket with the foam padding facing upward. Secure it using the included M8-1.25 mm button-head hex-drive screws and M8-1.25 mm nylon-insert lock nuts. Use the 3/4-inch access holes to install and tighten the screws.
6. Install the included rubber grommet into the cable pass-through hole to prevent the cable from rubbing against the vehicle chassis. Install the grommet from the cabin side. Refer to Fig.11-13.
7. Reinstall the emergency brake lever assembly. Route the included short emergency brake cable from the emergency brake lever toward the rear of the vehicle. Install the nylon-insert nut (reuse the original washer) and tighten it only enough to hold the cable in position at this time.
8. Install the cable housing adjusters. Position each cable adjuster so that the bracket is approximately centered on the threaded section. Refer to Fig.11-12. The cable housings will be installed in a later step.

ABS SENSOR WIRING INSTALLATION

1. Trace the existing ABS sensor wire connectors to the vehicle wiring harness. Remove the electrical tape and zip ties as necessary to free and unravel the wiring.
2. Extend the ABS connector ends toward the brake support bracket. Secure the connectors using the push-in zip ties already attached to the bracket. Refer to Fig.8-9.
3. Connect the included ABS sensor extension cable to the driver-side ABS sensor. Refer to Fig.5 to identify correct ABS wire connector for the passenger side and driver side.

SUBFRAME INSTALLATION

1. Connect the upper bracket to the subframe using 1/2"-20 flanged hex-head bolts and 1/2"-20 nylon-insert lock nuts (3 holes indicate a bottom side of the bracket). Refer to Fig.15. Hand-tighten the hardware only. Do not torque at this time to allow the bracket to pivot.
2. Remove the fuel and vent hoses from the fuel-fill neck. Plug both hoses to prevent debris from entering the fuel tank.
3. Remove the storage-compartment lining from inside the storage compartment.
4. Guide the upper bracket so that it lays flat against the storage-compartment back plate while aligning the lower mounting holes of the subframe with the existing trailing-arm mounting holes in the vehicle chassis. Insert the original M16-1.75 mm trailing-arm bolts to secure the subframe in position. Refer to Fig.15. Do not install the lock nuts yet.
5. While holding the upper bracket firmly against the storage-compartment back plate, mark the center of each 1/2-inch mounting hole onto the back plate.
6. Remove the subframe and upper-bracket assembly. Drill five 1/2-inch diameter holes through the storage-compartment back plate at the marked locations.
7. Deburr all drilled holes. Reinstall the subframe and upper-bracket assembly using 1/2"-20 × 1-3/8-inch hex-head bolts and distorted-thread flange nuts. Refer to Fig.15. Reinstall the original trailing-arm bolts and lock nuts. Torque the trailing-arm bolts to 103 ft-lbs. Torque the five upper-bracket mounting bolts to 80 ft-lbs.
8. Torque the bolts connecting the subframe to the upper bracket to 80 ft-lbs.
9. Reinstall the fuel and vent hoses onto the fuel-fill neck.
10. Trim the splash guard around the subframe as shown in FIG.16. Reinstall the splash guard.

TORSION BAR INSTALLATION

1. Assemble the torsion bar assembly as shown in FIG.14 using the included 5/16"-18 stainless-steel bolts and washers. Apply the included medium-strength thread locker to the bolt threads.
2. Using the included stainless-steel 1/2-inch shoulder screws and stainless-steel washers of various thicknesses, attach the torsion bar assembly to the lower mounting

tabs of the subframe. Refer to Fig.15. Select the appropriate washer thickness so the torsion bar assembly can pivot freely upward and downward while preventing lateral movement from side to side. Apply grease to the shoulder of each screw before installation. Apply medium-strength thread locker to the shoulder screw threads. Torque the shoulder screws to 30 ft-lbs.

REAR TRAILING ARM INSTALLATION

1. Apply a small amount of the grease provided in the kit to Outer Surface #1 of the rubber bushings to facilitate smooth installation, as shown in FIG. 6.
2. Install the two-piece rubber bushings into the main mounting holes of the KDS rear trailing arms.
3. Apply grease to Inner Surface #3 of the rubber bushings and to Outer Surface #4 of the steel sleeves, as shown in FIG. 6. Install the steel sleeves into the bushings. Apply a small amount of grease to the outer flange surface (Surface #2) of each bushing, as shown in FIG. 6.
4. Push the KDS rear trailing arms into position with the dual shock-absorber mounting tabs facing upward. Refer to Fig.15. Align the mounting holes and slide the included 5/8"-11 × 7-1/2-inch bolts through the assemblies. A small amount of grease may be applied to the unthreaded portion of the bolt shaft to facilitate installation. Use a rubber mallet if necessary to drive bolts in to prevent damage to the finish.
5. Install the 5/8"-11 nylon lock nuts and torque to 103 ft-lbs. Use a 6-point socket. Apply Scotch tape to the inside surface of the socket to minimize potential finish damage.
6. Install the shock absorbers using the included black M12-1.75 × 65 mm socket-head bolts and black M12-1.75 mm nylon-insert flange nuts. Torque to 50 ft-lbs.
7. Install the torsion bar links, inserting the links from the center outward. Refer to Fig.15. Torque the mounting hardware to 28 ft-lbs.

REAR WHEEL HUB INSTALLATION

1. Install the wheel hub and wheel hub adapter using the included M12-1.75 × 60 mm black socket-head bolts. Apply a small amount of the included red thread locker to the bolt threads. Torque the bolts to 85 ft-lbs.
2. Install the new brake calipers using M12-1.75 × 25 mm socket-head bolts. Apply a small amount of red thread locker to the bolt threads. Torque the bolts to 80 ft-lbs.
3. Connect the "banjo" type ends of the flexible hydraulic brake lines to the brake calipers. Install the lower brake line on the passenger side and the upper brake line on the driver side.
4. Connect the emergency brake cable housings to the brake calipers.
5. Feed the emergency brake cables from the calipers toward the cable bracket. Hook each cable end into the corresponding caliper fitting. Using pliers, crimp the retaining tab to firmly secure the cable end to the caliper. Repeat the procedure on the opposite side.

6. Using the included 3-way brake cable union, join the emergency brake cables. Refer to Fig.12. Do not apply thread locker at this time.
7. Connect the ABS sensors to the lower ports on the hub adapter plates. Plug the upper ports using the included sensor blanks (w/o wires) and M6-1.0 × 16 mm black flanged hex-head screws.
8. Install the included brake rotors and brake pads.
9. Add the manufacturer-recommended brake fluid. Bleed the brake system according to the vehicle manufacturer's recommended procedure.
10. Adjust the emergency brake cables for proper operation. Apply medium-strength thread locker to the six set screws to secure the adjustment. After verifying proper emergency brake operation, trim any excess cable length if necessary. **IMPORTANT:** Excess cable ends may contact the vehicle chassis or bracket and interfere with proper operation.
11. Secure the brake lines and ABS wires to the underside of the trailing arm using the included cable clamps. Use zip ties and cable clamps as necessary to bundle and secure the lines together.
12. Reconnect the negative cable to the battery terminal.

FINAL CHECK

1. Verify that all components, connections, fasteners, and installations are properly completed and secured.
2. Install the wheels and torque the wheel fasteners to the manufacturer's specified torque (100ft-lbs).
3. Test the vehicle in a safe, controlled environment. Verify proper operation of the braking system, emergency brake, and all other components affected by the installation.
4. Inspect all hydraulic brake-line connections, fittings, calipers, and unions for signs of brake-fluid leakage. Repair any leaks before operating the vehicle.
5. Test the emergency brake on a safe, controlled slope. Verify that the vehicle remains securely stationary with the emergency brake applied. Adjust the emergency brake if necessary.
6. After successful completion of all testing and inspections, reinstall all removed body panels and components. Verify that all fasteners are properly installed and secured.

CONGRADULATION! INSTALLATION IS COMPLITE.

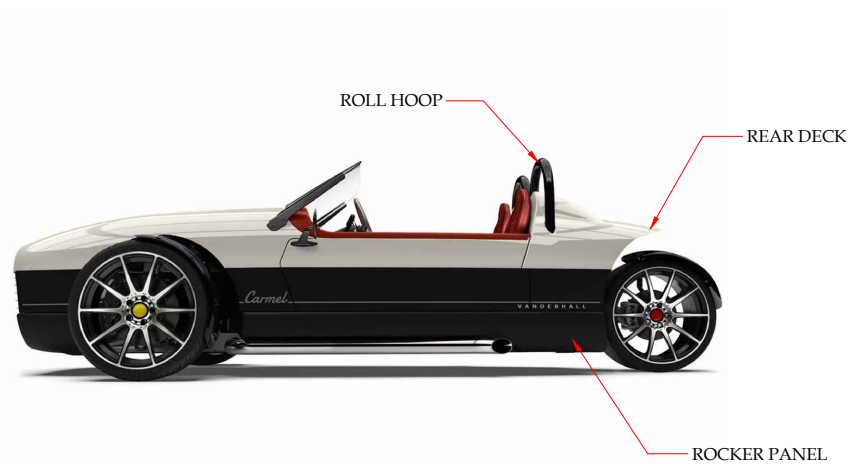


FIG.1



FIG.2

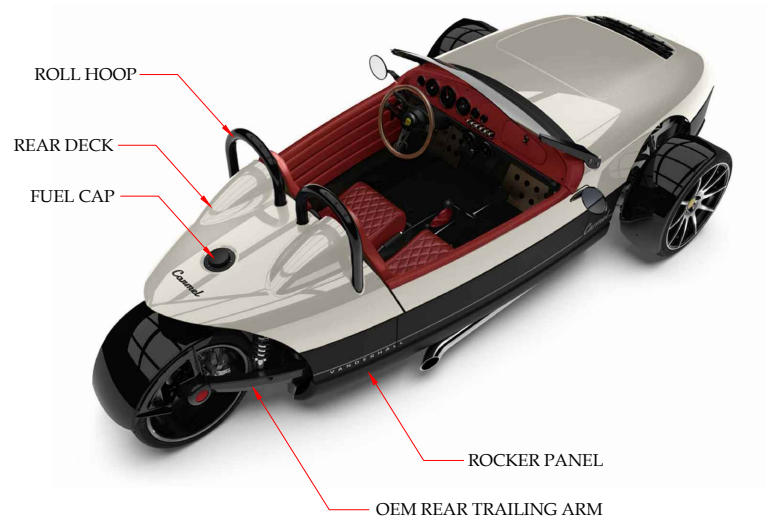


FIG.3

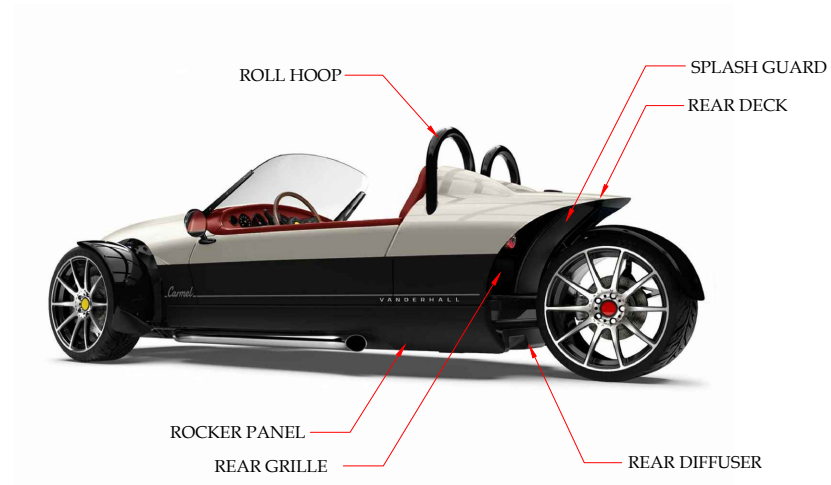


FIG.4

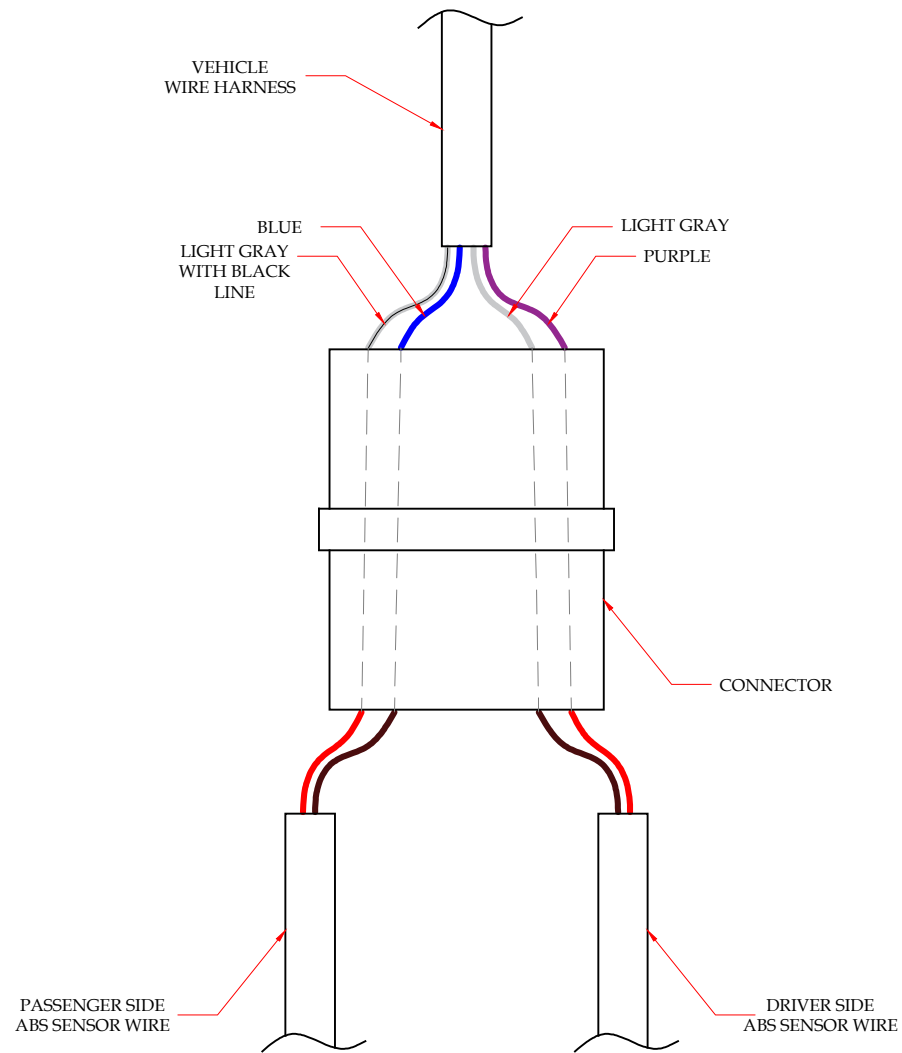


FIG.5

ABS SENSOR WIRING DIAGRAM

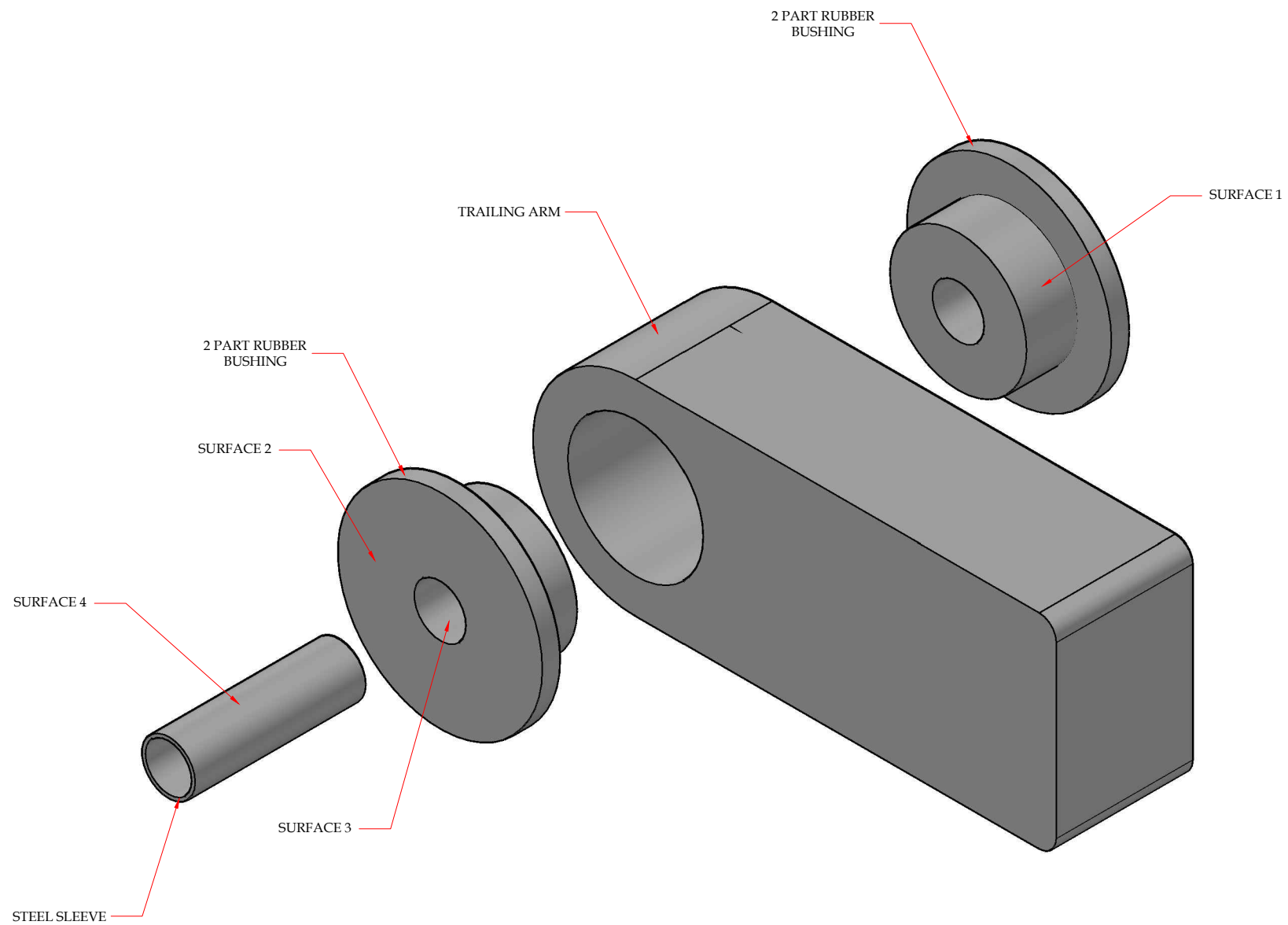


FIG.6

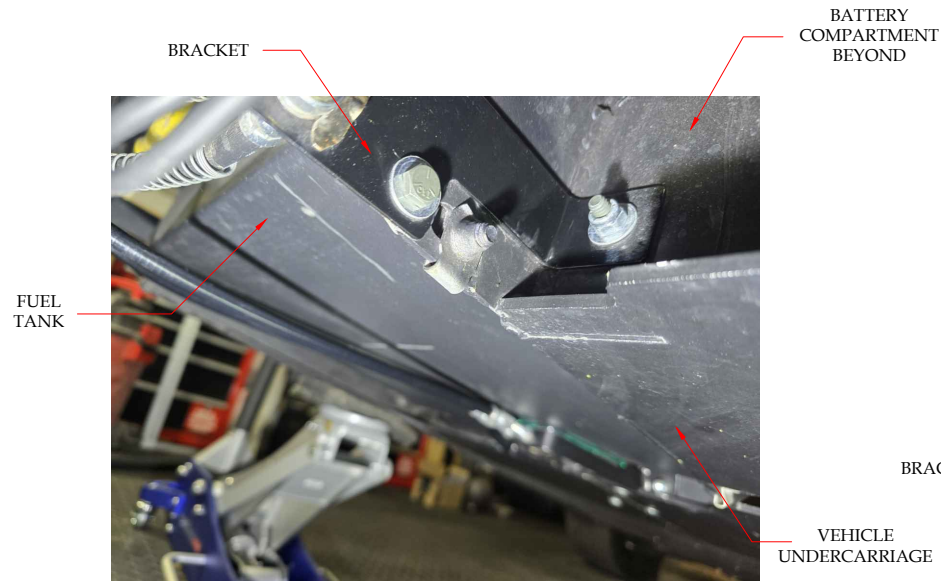


FIG.7

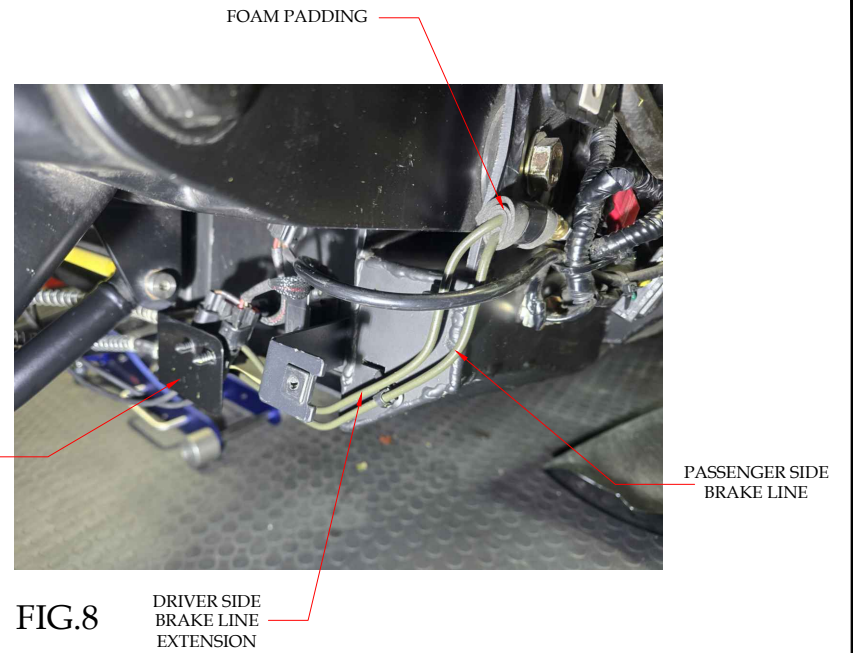


FIG.8

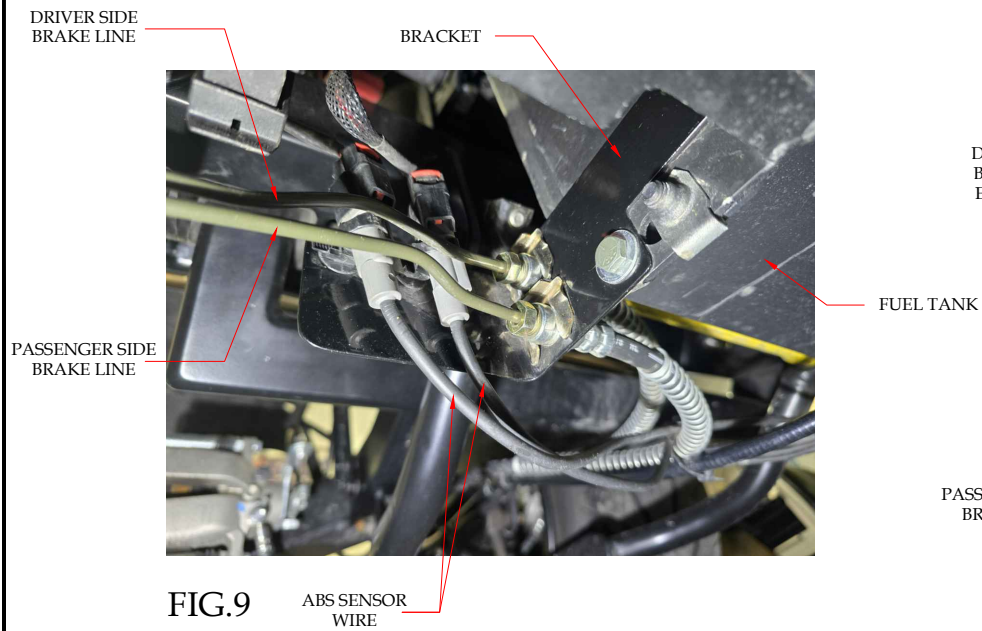


FIG.9

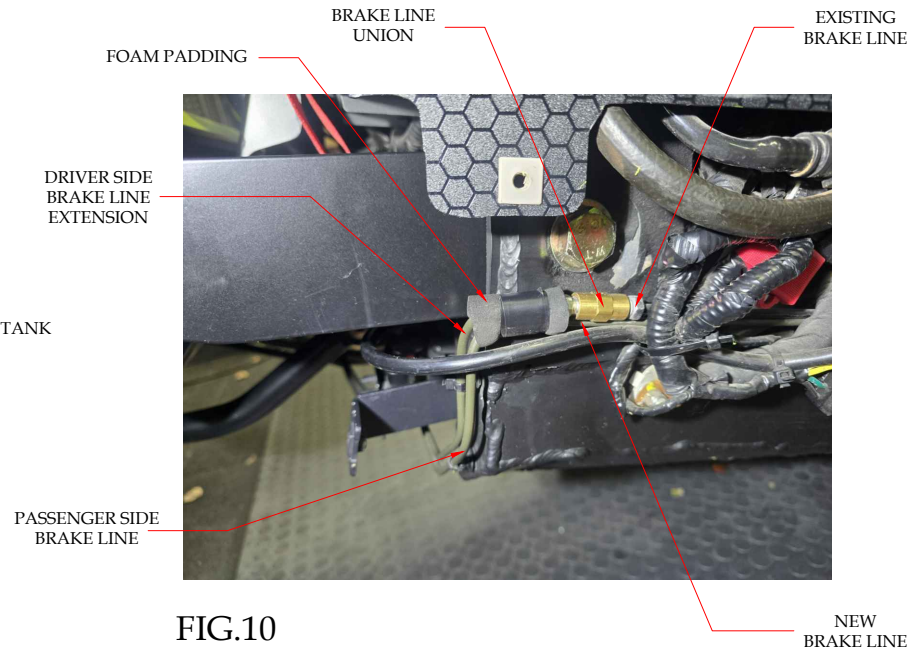
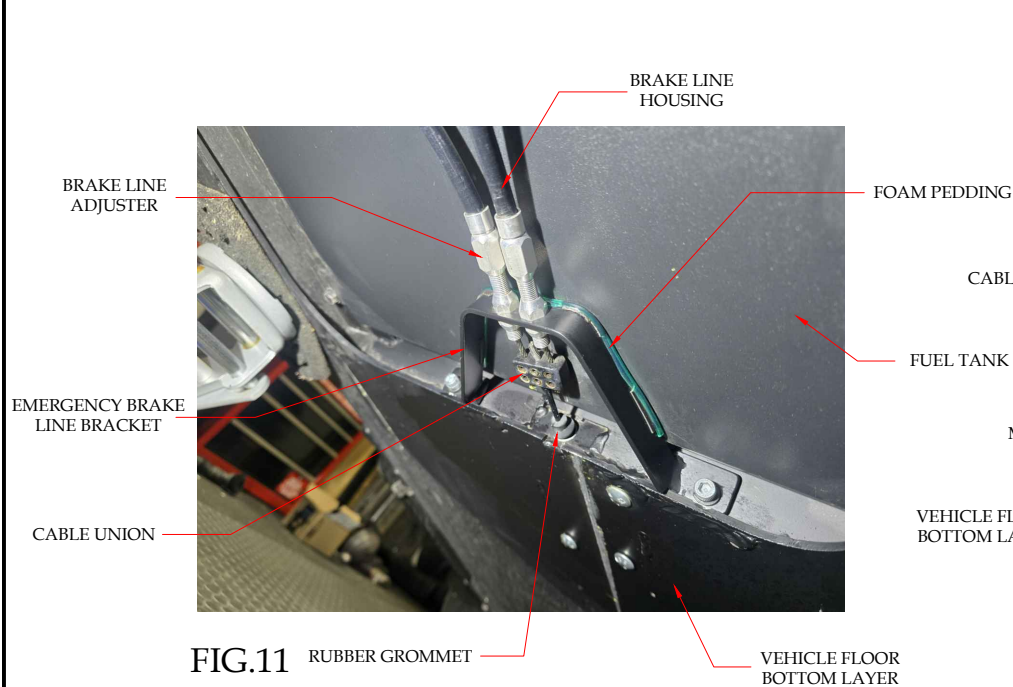
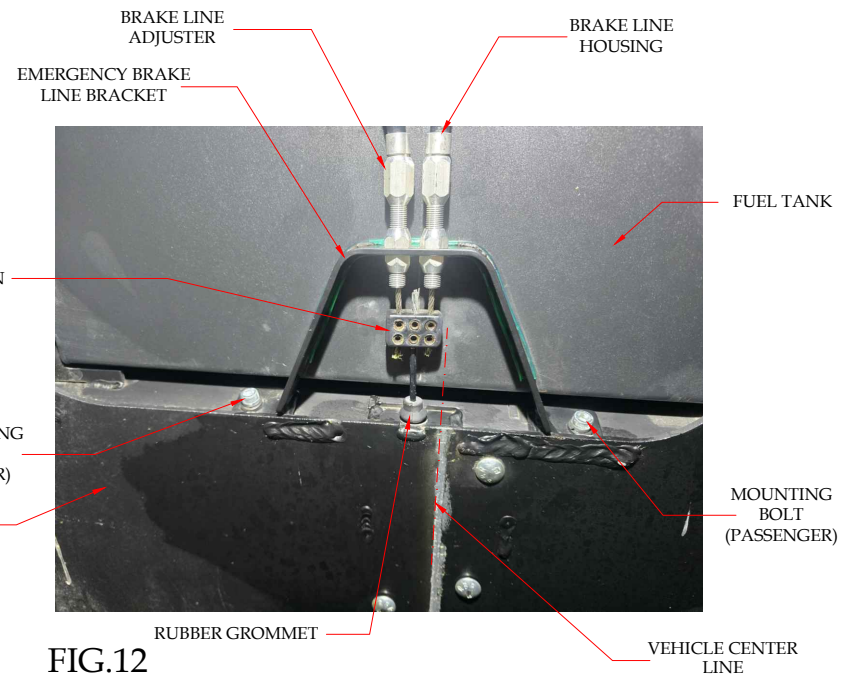
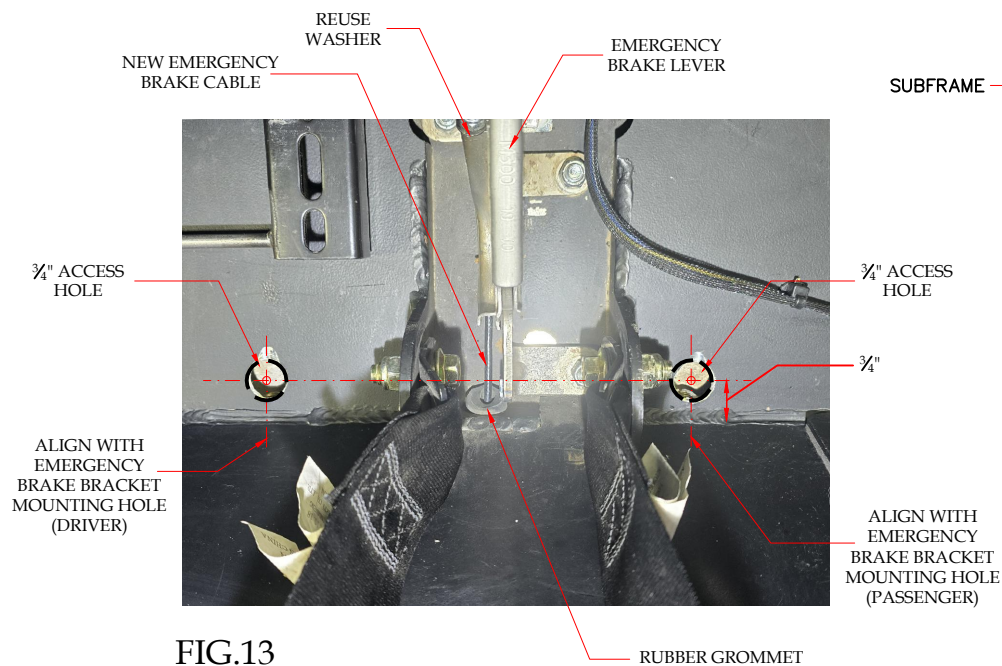
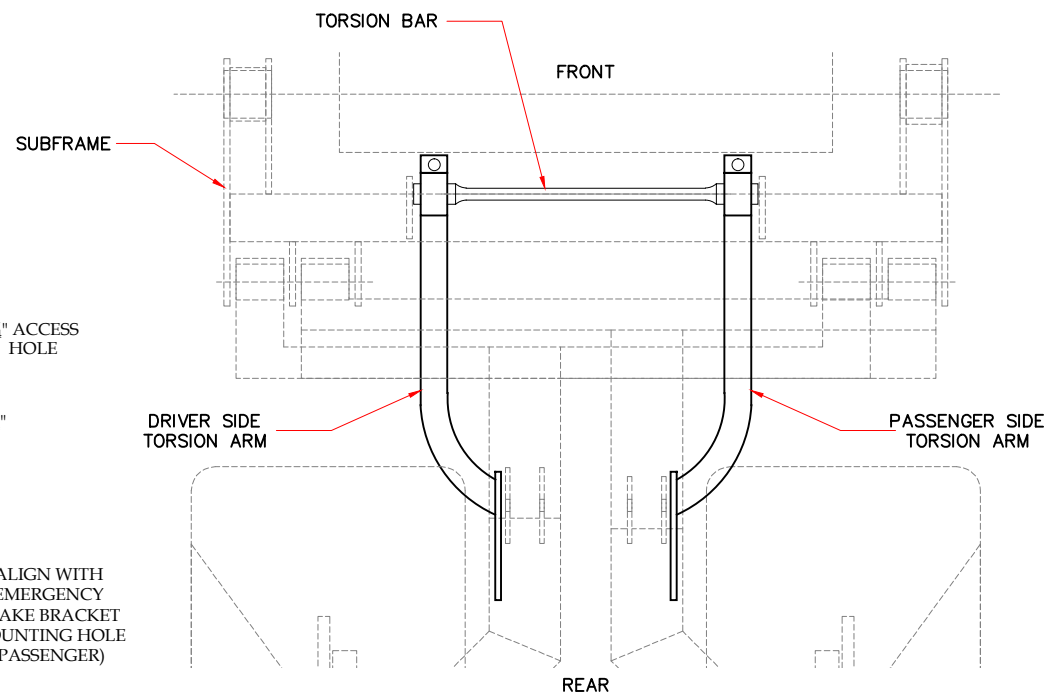


FIG.10



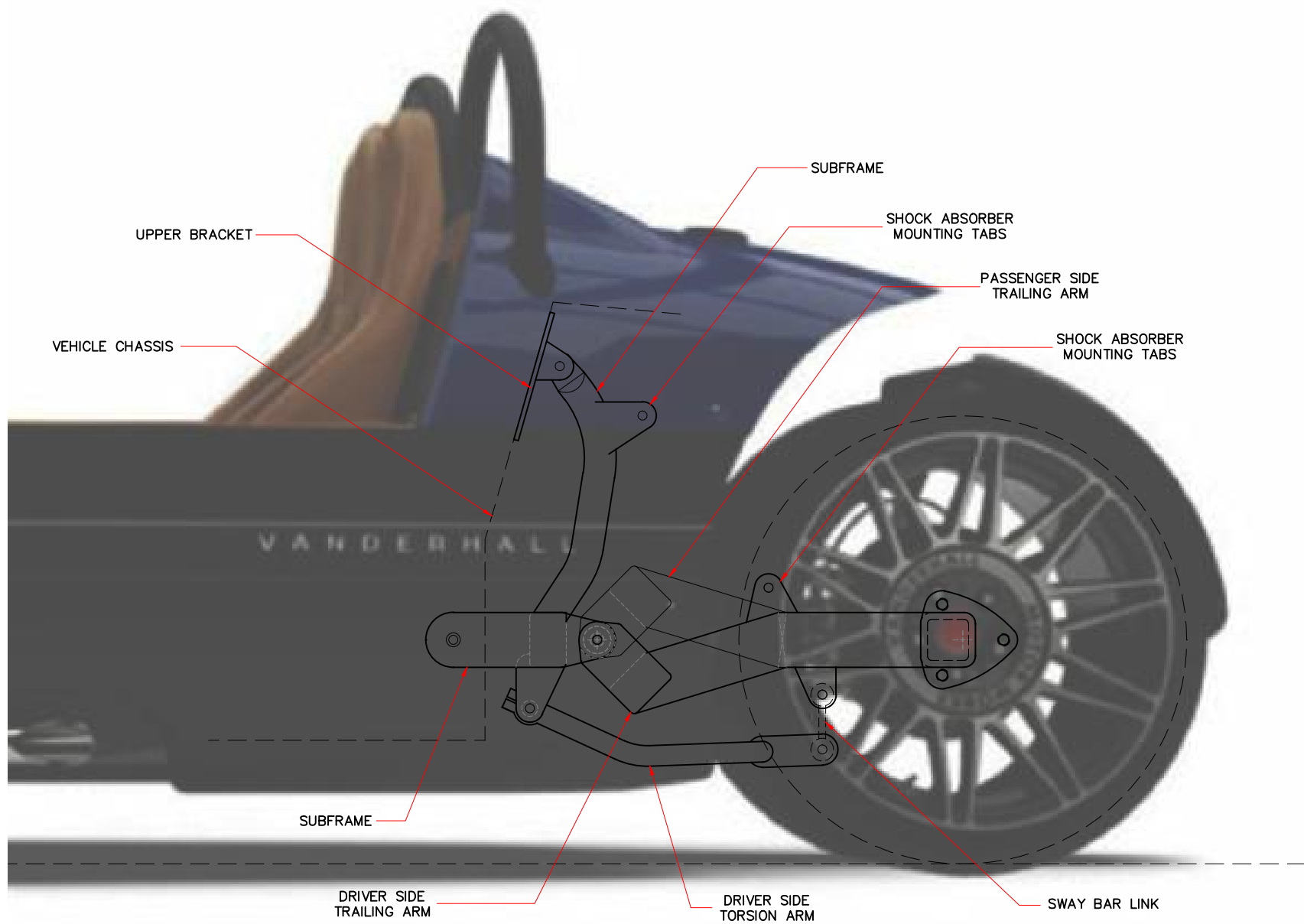


FIG.15

SPLASH GUARD

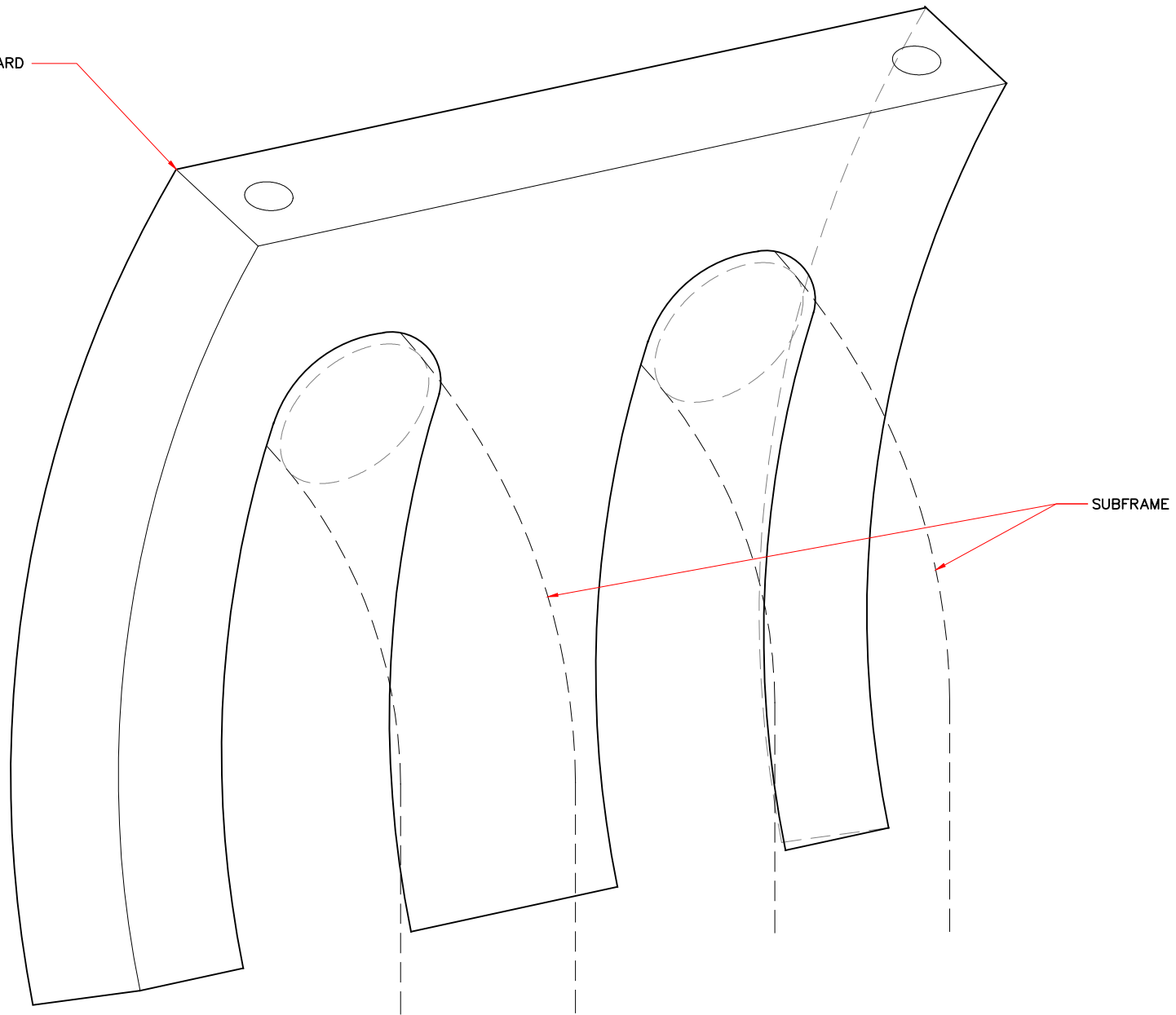


FIG.16