Jack Me Up Scotty!

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This article is not about the relative merits nor the risks of do-it-yourself ("DIY") maintenance of late-model (post-2000) Mercedes-Benz vehicles. If you are among the majority of Mercedes owners who do not wrench their own cars, then read no further unless you want to validate your decision to let your dealer or independent shop maintain your car. However, if you are among the estimated 2% to 3% of Mercedes owners who take pride in maintaining their own cars, this article can help you understand how to safely raise your car off the ground in order to tackle the more complex maintenance and repair procedures.

Mercedes vehicles introduced after 2000 typically have five plastic jack points. One is centered in the cross-member directly below the engine. It protrudes through the plastic panels below the engine compartment at the seam line between two of the panels. This arrangement allows removal of the panels while the car is being supported at this jack point. The remaining four jack points are positioned along the side skirts near each tire. With the exception of the R230 SL-Class, the jack points adjacent to the side skirts incorporate a pocket that precisely locates the vehicle jack. The R230 chassis and most pre-2001 Mercedes cars

Popular automotive ramps typically will not work with MB cars equipped with AMG front bumpers.

Modular RV ramps easily fit beneath the front bumper on any Mercedes-Benz.

have separate jack points for the vehicle jack integrated into the side skirts.

The actual tools needed for a particular maintenance job will depend upon whether or not you need to remove the wheels. Another factor is the ground clearance beneath the front bumper and the side skirts. This list of tools should be adequate for most DIY projects. Note that the vehicle jack, which is intended, for emergency use is not among the list of tools and should remain in the trunk while performing planned maintenance.

1) Automotive wheel ramps. 12,000-pound capacity lightweight plastic ramps are available at automotive super stores for about $50 per pair. Ramps with a 6-inch high platform and an integrated stop will normally work for Mercedes cars with standard bumpers. Vehicles equipped with AMG bumpers may not have adequate clearance to use popular automotive ramps. In some cases where wheels are not being removed, no tools beyond these ramps will be needed to raise the car off the ground.

2) Recreational Vehicle ("RV") ramps. Modular RV ramps are intended to be stacked one to three modules high in order to level RV's on uneven ground. RV ramp modules can be stacked to create a ramp that easily fits beneath the front bumper on Mercedes cars with AMG body kits. RV ramps alone do not typically provide enough lift to do much useful work. But, they will raise the front of the car high enough to allow a low-profile floor jack to be positioned beneath the jack point located on the engine cross-member. 8-inch square by 1-inch high blocks typically sell for $4 to $5 per block. You will need 12 blocks to make two ramps three blocks high.

3) Low-profile floor jack. Standard floor jacks may work with many Mercedes cars. But, a low-profile floor jack with a nominal 100mm round head will provide the extra flexibility needed in some cases. Floor jacks with undersized heads will not work well with the jack point beneath the engine cross-member, which is about 80mm long. They will also not work very well when lifting the rear of the car by the differential. Sears offers low profile floor jacks in the $100 to $200 price range and they are frequently discounted.

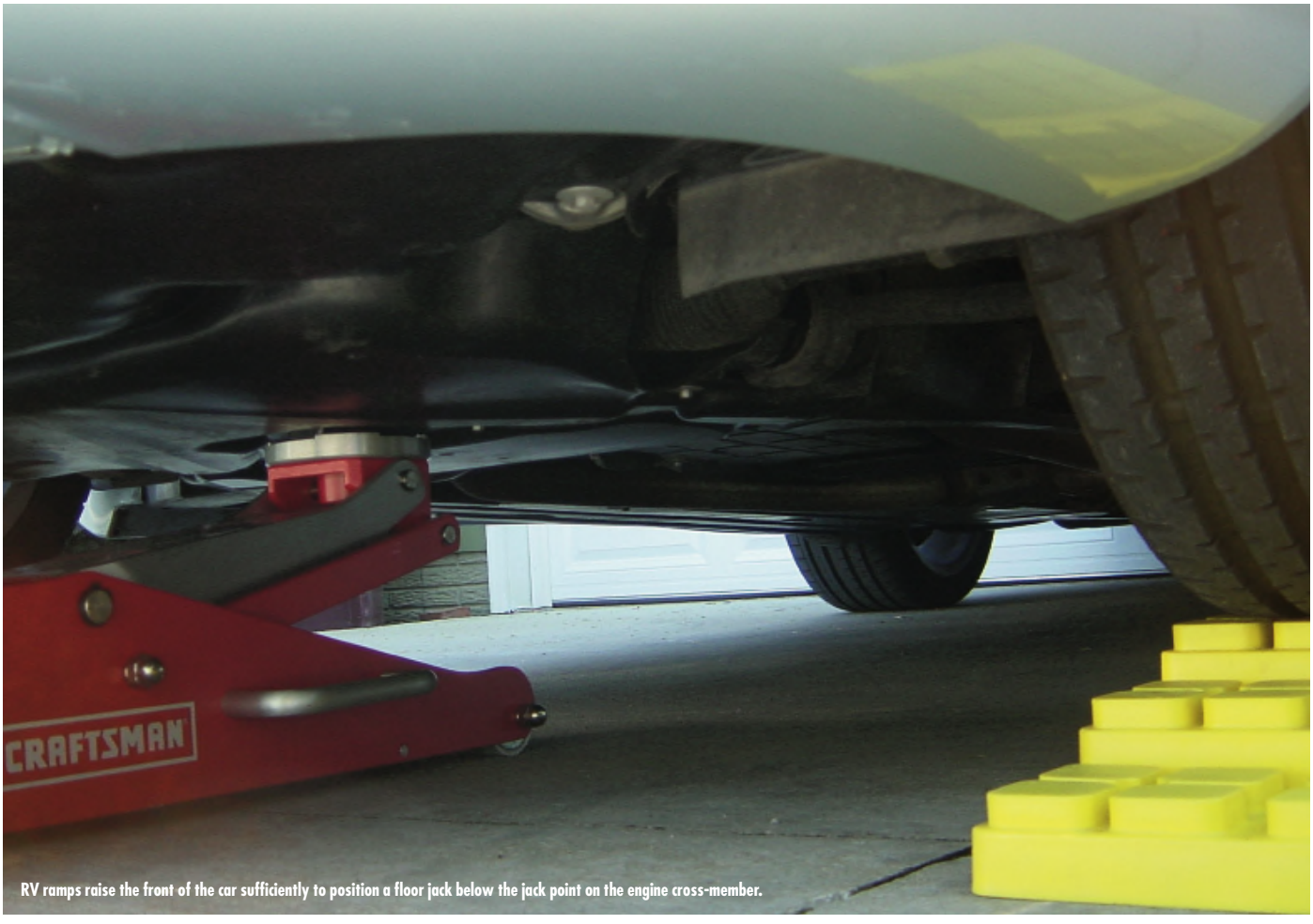
4) Wheel chock. Some owners may be tempted to use a scrap block of wood or brick as a wheel chock. DIYers are encouraged to invest $10 to $20 to purchase a pair of rubber wheel chocks for the added safety factor they will provide.

5) Jack stands. A good pair of jack stands will cost about $60 to $80 per pair. The logical place to position jack stands is at the jack points used for the emergency vehicle jack and dealer shop lift. Much of the bottom of the cars are covered with plastic panels but the chassis lift points used with the vehicle jack are easily identified. The vehicle jack pocket is roughly 28mm wide by 58mm long. Ideally, the saddle of the jack stand will fit into this pocket. Most readily available jack stands do not work particularly well with the jack points on newer Mercedes-Benz models. Two workarounds are described below. Jack stands should always be used in pairs. Using one, three or four jack stands to support the car is not considered a good practice.

Here are the basic steps to support your Mercedes vehicle on jack stands:

a) Park your car on solid level ground. Raising your car onto jack stands while parked on a slope or soft surface is dangerous and should not be attempted under any circumstances.

b) Build a pair of ramps with modular RV ramp blocks and position them forward of the front tires. Do not attempt to drive both the front and rear wheels onto RV ramps at the same time. The front ramps will act as wheel chocks and the rear tires are likely to spin and jettison the ramps behind the car. If standard automotive ramps fit beneath your front bumper they could be used in lieu of the RV ramps. However, if you are planning to remove the wheels and place the car on jack stands, your floor jack may not raise the car high enough for the tires to clear the standard ramps. Also, standard ramps



RV ramps raise the front of the car sufficiently to position a floor jack below the jack point on the engine cross-member.


Jack stand with steel block attached to saddle positioned in rear jack point of R171 SLK.


W211 engine cross-member jack point installed in place of stock jack point to accommodate unmodified aluminum jack stands. Small rubber pad placed between jack point and jack stand.

will probably extend into the area where you will be placing your jack stands.

c) SLOWLY drive the car up onto the RV ramps. RV ramps are actually low enough to fit in front or behind both the front and rear wheels. It's possible to drive up the ramps in either direction since the RV ramps have an incline on both sides with no stop. When working in a closed garage, you can also raise one wheel at a time from one of the jack points along the side skirts and then slide the RV ramps beneath the two front or two rear wheels.

d) Place vehicle in park, set the emergency brake and place wheel chocks in front of and behind at least one of the tires remaining on the ground. If you will be removing the wheels, loosen the lug nuts slightly before raising the tires above the ramps with the floor jack.

e) Position your low profile floor jack beneath the jack point on the engine cross-member. Carefully raise the car just high enough to position jack stands beneath the jack points along the side skirts behind the front wheels. Be careful not to damage the paint on the lower part of the bumper with

the floor jack handle. If you are placing the rear of the car onto jack stands, you can raise the car with the floor jack positioned beneath the differential.

f) Raise the jack stands to within a few millimeters of the jack point. You will want to get the jack stand as close to the jack point as possible so that when the car is lowered it does not drift away from the jack stand.

g) Slowly lower the floor jack until the jack points are resting slightly on the jack stands. Keep the floor jack and RV ramps in place until you are satisfied that the jack stands are squarely on the ground and the jack stand saddle is properly positioned under the jack points. Lower the car until the full weight of the car is resting on the jack stands. If the floor jack does not interfere with the maintenance procedure it's considered a best practice to leave it in place beneath the engine cross member or the differential.

Because of the irregular shape of the jack points along the side skirts of modern Mercedes-Benz cars, it's not easy to find jack stands that fit very well with the jack points. There are a few brands of aluminum jack stands with a relatively flat saddle that can be adapted to work with the Mercedes jack points. The saddle on the aluminum stands pictured in the photos has a nominal dimension of 50mm by 55mm. The flat area in the center of the saddle is 50mm by 32mm.

One approach is to add an aluminum or steel block to the saddle. The block shown in the pictures is 50mm long by 28mm wide by 25mm high. It easily fits into the pocket of the jack point. Strictly speaking this modification voids the warranty on the jack stand, which is the reason details for making the modification are not provided in this article.

Fortunately, there is another solution that can be used to accommodate jack stands, which have a flat saddle, which mates well with the jack point used on the engine cross-member of the W211 E-Class (This part # is also used on other models.) This approach can be used with a wider range of jack stands and may even work for some pre-2001 Mercedes-Benz models with the older style jack points. The jack point on the engine cross-member attaches to the chassis using the same technique as the jack points along the side of the vehicle. This is the case for both the post-2000 models with the integrated vehicle jack pocket and the earlier models using the round jack point. Each of these jack points is held in place by pushing or screwing a plug into a flexible plastic anchor with four tabs that retain the jack point in place.

The W211 engine cross-member jack point has a slightly curved surface to accommodate the shape of the engine cross-member. It also has a small integrated plastic pin, which prevents it from spinning on the cross-member. This jack point can easily be trimmed to 33mm high using a Dremel cutoff wheel mounted in a drill press. Position the drill press table 33mm below the cutoff wheel, and carefully trim the surface that faces the vehicle. Leave the plastic tube in the center of the jack point intact as this helps to locate the jack point on the car.

To use this modified engine cross-member jack point, remove the standard jack point along the side of the car by unscrewing the plastic plug and pulling the jack point away from the chassis. Position the engine cross-member jack point and lock it into place by pushing the locking pin into place. Since this is only a temporary substitution of jack points, you may wish to sand the locking pin lightly to reduce its diameter and make it easier to remove.

Once the engine cross-member jack point is in place on both sides of the front or rear, you will find it is very easy to position the car on jack stands. A small rubber pad 50mm by 32mm by 2mm thick helps to protect the jack point from being marred by the jack stand. Remember to reinstall the standard jack points or you will not be able to use your vehicle jack in the event you need to change your tire on the road. •

Top and bottom view of W211 engine cross-member jack point, PN 002-997-32-86.

Typical jack point along side skirts of late model (left 221-998-00-50) and previous generation (right 002-997-06-86) M-Bs.