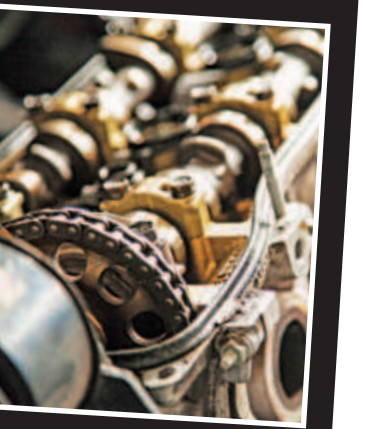
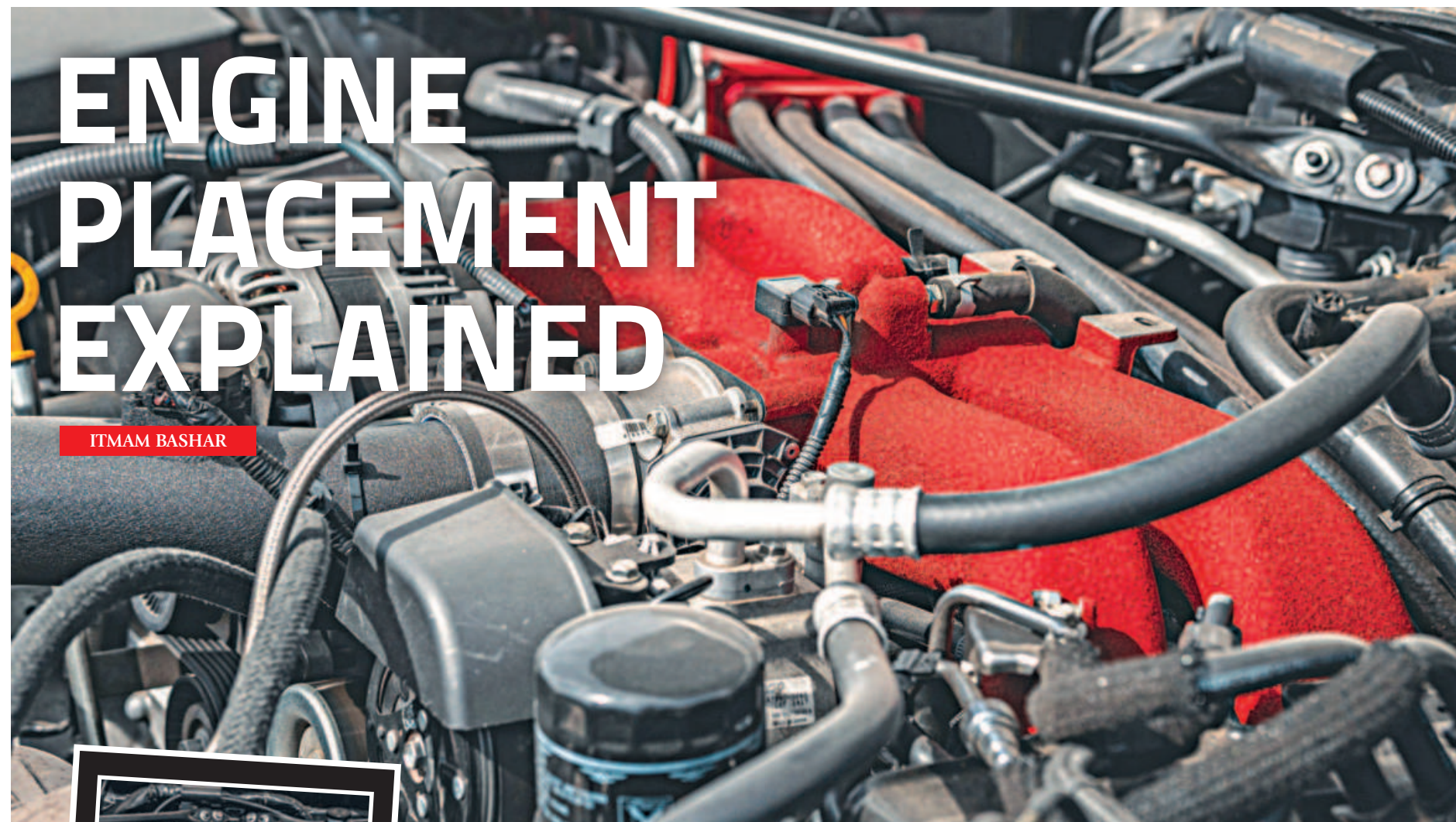


ENGINE PLACEMENT EXPLAINED

ITMAM BASHAR



Engine placement is one of the more crucial elements when it comes to automobile design. It can affect the handling, cabin space, cooling necessities and weight distribution of the automobile. Commonly, when it comes to four-wheelers, there are three configurations of engine placement: front, mid and rear-engined. Each type comes with a unique setup and a set of characteristics that make it good for some applications but bad for others. Let's break down what each engine placement is useful for and why they are used. Front-engined cars

As we all know, a little over 90% of cars have a front-engined layout. Why? For starters, they are mostly front-wheel-drive (FWD) cars. So it makes sense to have the engine over the front wheels for more traction, to make it more forgiving to steer for run off the mill econoboxes. This makes the vehicle stable while maintaining a balanced weight distribution when accelerating.

However, FWD front-engine cars often suffer from understeer as they lose traction when accelerating, due to the weight of the car being shifted to the rear wheels. It's still a very efficient way to get the power down, since the distance from the engine to wheels is short, which minimises losses through rotational components. They are also very efficient due to easier and more effective cooling.

The engine in the front offers more space in the cabin, which makes the vehicle more comfortable for passengers. This is relatively safer than other engine placements due to the crumple zone being longer when compared to the rear and mid-engined cars. The engine in the front will also, more likely, absorb more

impact in an event of a collision. The front of the cabin is often larger than the rear and when properly designed can provide plenty of room for engine work. Although, many modern cars' engine bays are cramped with new technology. Rear-engined cars

The world's first car was rear-engined but in the modern world, these cars are hard to come by - unless you are on a racetrack. The cars with a rear-engine layout are often rear-wheel-drive (RWD), as having an engine on top of the driven wheels at the rear provides more accelerative traction. Not only will the accelerative traction be good from a standstill because of the weight distribution at the rear end but also will have a greater grip as the car accelerates when the weight is shifted to the back of the car. This allows the rear-engined cars to strongly accelerate without losing out the tires.

However, that same power to the back wheels can cause problems as the rear tends to snap out. These cars are prone to a lot of oversteers since the power and weight in the back will tend to shift to the front. Oversteering is not easy to fix as understeering in FWD cars. But with the right chassis and suspension tuning, these sports cars can be amazing to drive, like the Porsche 911.

When it comes down to braking performance, these cars provide the best among the setups mentioned. When decelerating, the load is transferred to the front wheels. Rear-engined cars tend to have a weight distributed towards the backend, and this load tends to even out between the front and rear axles, which allows for optimal braking.

Having the engine in the back of

the car usually moves the passenger compartment forward, reducing the crumple zone, which can be more dangerous compared to front-engined cars. The front of the car in this case is usually used for small cargo space. Mid-engined cars

Mid-engined cars are self-explanatory for the most part, where the engine sits in between the front and rear axles of the car. Cars with this layout are said to have the best handling among the setups, as the weight distribution tends to be in a more neutral position. By putting the engine close to the centre of the car, engineers balance the front and rear weight putting out equal traction on four wheels. Since its mass is in the centre of the car, it tends to be nimble, more agile and less resistant to rotation, making the cars incredibly stable in corners.

Cars with this layout will have a much more even weight distribution under deceleration compared to front-engined cars. The rear tires can perform a major portion of the braking, ultimately allowing for better stopping distances as the tires are evenly weight distributed. This also helps disperse the heat from deceleration better across four brake discs, thus reducing brake fade.

As good as mid-engined cars sound, it comes with a couple of drawbacks. The cabin space is very small as the engine is located where the back seat of a car should be. If by any chance you ever lose control of such a vehicle and once it starts to spin, it will be hard to stop as the centre of gravity is low with a mass that is distributed at the centre of the car. Still, most supercars and hypercars follow this layout for the best control of the car.

Competition is a constant factor in the equation of workplace culture. It is the secret motivation that drives employees to excel and bring in more contributions to the organisation. But sometimes this competitive culture can lead to feelings of incompetence, physical and emotional fatigue and lack of achievement — resulting in a debilitating state we call burnout. Burnouts can jeopardise long-term career prospects and are attributed to causing hypertension, insomnia, depression and relationship problems.

While burnouts may sound like a problem only for the employees, they aren't. The impact of employee burnout

Set well-defined goals for yourself
Working in a competitive setting can be challenging. You may often feel like your coworkers are moving too fast, which can be unnerving at times. But if you continue contending with others, the only outcome is you sitting at your work desk with furrowed brows, feeling absolutely burned out. Remember to fight the temptation to go head-to-head with others when it comes to vain goals such as bids for recognition. Stay focused on your long-term objectives instead.

Don't view your work as a zero-sum game and your coworkers as obstacles to advancement. Their promotion or success doesn't necessarily mean that you're doomed to fail. If you constantly strive to better yourself and build skills that make you indispensable, you'll reach your ultimate goals without going through the searing experience of burnout. Whenever you feel overextended, remind yourself to take on challenges — and only those challenges — that align with your goals.

Build better relationships with coworkers

Developing strong interpersonal relationships with colleagues can help you ward off burnout and feel connected and engaged in your work. Working side-by-side with coworkers can you make a trustworthy member of the organisation. Praise others, accept constructive criticism, deliver on commitments and collaborate well.

Use the person you measure yourself against — your comparative other — as a source of inspiration. If comparison

direction in life. The best solution to such bouts of burnout is time away from work. Take it down a notch by prioritising good sleep habits, nutrition, exercise and social connections. These habits will allow your body and mind to rejuvenate and your productivity to flourish.

Also, engage in practices that promote equanimity and well-being, like journaling, meditating and travelling. If you can't squeeze such activities into your jam-packed schedule, give yourself some time to assess exactly how you're spending your time. This will help you limit spending time on tasks that aren't important or put you in a negative mood, and make space for things that replenish your energy.

Establish frequent contact with employees

Finally, we'd be remiss not to mention what company leaders can do to prevent employee burnout. In this context, holding regular meetings may help, as frequent, informal check-ins with managers often keep employees engaged and motivated. At the beginning of these meetings, managers can take a few minutes to ask the employees how they are doing and how they feel about their roles. Then converse with them about any work-related problem they might be encountering and any assistance they might be in need of.

Moreover, managers shouldn't forget to publicly recognise each employee for the contribution he or she has made in the preceding weeks. Establishing a cadence of meetings for this purpose fosters relationships, improves communication and translates into better job performance.

Don't add extra stress to an already intense workload

Company leaders bear the responsibility for fending off employee burnout because they control the employees' workload. They should keep the lines of communication open with employees and include them in any decision that is relevant to the work. Managers can set individual, work-related goals for employees at the beginning of each quarter, which can help gauge how employees are performing. On top of that, having clear goals help employees complete their work while factoring in their time off.

Managers also need to delegate tasks appropriately and reasonably. If an employee has a major deliverable due, others may be considered to pitch in for the short term. Most importantly, under no circumstances should managers pit employees against one another. They should instead encourage competition as a route to developing skills, staying motivated and reaching shared goals. Competition should not be used to cultivate workplace toxicity.

Competition is a Capital-T Truth of work life. Who doesn't feel stretched thin at the end of a busy day? Who doesn't find previously enjoyable tasks arduous at times? When heavy workloads and tight deadlines push you to burnout, consider it a serious problem. Burnouts affect not just your own performance and well-being — both on and off the job — but that of your organisation as well. Burnouts can often feel insurmountable, but it doesn't have to be a life sentence. Hopefully, implementing the strategies suggested above will help you face new challenges in a happier and healthier way.

Five ways to beat burnout in a competitive work environment

MORIUM KULSUM



ILLUSTRATION: ZARIF FAIZ

can be pretty damaging on organisations. Burnout can result in lower productivity, engagement and turnover as well as higher absenteeism. Thus, the issue of employee burnout needs serious attention from both employees and employers.

There will always be competition to keep you on your toes — no matter where your career leads you. But this competition doesn't have to be the source of self-doubt and stress. Let us discover ways to manage stressors that can cause burnout so you can achieve sustainable career success, fair and square.

makes you feel insecure, shift your perspective and learn from what others are doing right, for some tips may be applicable to you. Better relationships will enable you to open up to coworkers who are being overly competitive and hurting team morale. Such frank communication may be all it takes to kick hyper-competitiveness to the curb.

Prioritise self-care
Focusing on unrelenting work culture, intense time pressure or simply having too much to do can sometimes erode your sense of self - to the point where you neglect your health and lose