FUNDAMENTALS OF ENGINEERING DRAWING FOR POLYTECHNIC IN FIRST ANGLE PROJECTION

What is first angle projection in engineering drawing? First Angle Projection: In the first angle projection, the object is put in the 1st quadrant of the two-dimensional plane. The object is placed at the top of the horizontal plane and the front of the vertical plane. The first angle projection is widely used in our country and most of the European countries.

What are the 4 views of engineering drawing?

How to study engineering drawing easily?

How many angle of projection are there in engineering drawing? The two orthogonal projection methods used internationally are first angle projection and third angle projection. Third angle projection (figure 1.2) is used mainly in The United States and Canada whilst first angle projection (figure 1.1) is used mainly throughout Europe and the rest of the world.

What is the formula for angle of projection? The angular momentum of projectile = mu cos ? × h where the value of h denotes the height. The angle between the velocity and acceleration in the case of angular projection varies from 0 ? 180 degrees.

Which country uses the first angle projection?

What are the 4 C's of engineering design? The 4 C's of Engineering are collaboration, communication, creativity and critical thinking.

What is the basic principle of engineering drawing? The basic objective of engineering drawing is to communicate product design and manufacturing information in a reliable and unambiguous manner because engineering drawing needs to be language-independent so that a designer in one country can specify a product that is made in another country.

What is a CAD drawing called? The terms computer-aided drafting (CAD) and computer-aided design and drafting (CADD) are also used. A 2D CAD drawing A 3D CAD model. Its use in designing electronic systems is known as electronic design automation (EDA).

Why is engineering drawing difficult? This indicates that the learning difficulties in engineering drawing can arise due to various factors, such as the complexity of spatial visualisation, technical terminology, and the need for precise measurements.

What is the most important part of an engineering drawing? On every engineering drawing, there are a few must-haves, including: Dimensions and tolerances: Include any dimensions and tolerances that are necessary for producing the part in your drawing. For CNC parts, it is customary to include all of the part's dimensions in the drawing.

What is the difference between drawing and engineering drawing? The art of representing engineering objects such as buildings, roads, machines, circuits etc. on a paper is called engineering drawing. artistic drawing is to convey emotion or artistic sensitivity in some way. Purpose of engineering drawing is to convey information about engineering object or idea.

How to do first angle projection?

Who uses the 1st angle projection? First angle projection is widely used in India and European countries. The object is placed between the observer and projection planes. The plane of projection is taken solid in 1st angle projection. 2.

What is the best angle of projection? For a non-aerodynamic projectile that is projected at constant velocity from ground level the optimum projection angle is 45°.

At what angle is the maximum height? We define projectile motion as motion of a body thrown in the gravitational field of the earth. In that sense a body projected upward is also a projectile . So, height reached by the body will be maximum when angle of projection is 90 degree.

How do you calculate projection? The formula for a vector projection of w onto v is given by p r o j v w = v ? w | v | × v | v | , where the first fraction is the scalar projection (the magnitude of the component of a vector in a certain direction) of w onto v, and the second fraction is the unit vector of v (i.e., a vector of length 1 in the ...

What is the maximum height of a projectile? The maximum height of a projectile is given by the formula H = u sin ? 2 2 g , where is the initial velocity, is the angle at which the object is thrown and is the acceleration due to gravity.

Which angle projection is used in the USA? In the third angle projection, the object is placed in the third quadrant. The object is placed behind the vertical planes and bottom of the horizontal plane. Third angle projection is widely used in the United States. The projection planes come between the object and observer.

What is the symbol of first angle projection? Large end of the cone nearest to the top view indicates the symbol for first angle projection. Small end of the cone nearest to the top view indicates the symbol for third angle projection.

Which projection method is used in the United States? Orthographic Projection In mechanical drafting, it is very common to prepare completely dimensioned detail drawings using 2-D views, also called Orthographic Projections. There are two main types of projection methods that are in use. The third-angle projection method is mainly used in the United States.

What are the four pillars of engineering? The four pillars of engineering management — People, Technology, Processes, and Product — provide a framework for approaching this task. Expanding these four pillars will also enable new managers to understand what is involved with the job.

What is the Big 4 in engineering? In broad terms, engineering can be divided into four main categories — chemical, civil, electrical and mechanical. Each of these types requires different skills and engineering education.

What are the 4 pillars of design? Design plays a vital role in the success of a product and Visual Design itself is a very large subject. It also depends on an individual's common sense, visualization. 4 pillars of Design: Navigation, Presentation, Content, and Interaction help to design a beautifully crafted user-centric product.

What is HT and VT in engineering drawing? The point of intersection or meeting of a line with the reference plane, extended if necessary, is known as the trace of a line. The point of intersection of a line with the HP is known as the horizontal trace, represented by HT and that with the VP is known as the vertical trace, represented by VT.

How to interpret 1st and 3rd angle drawings? In third angle, what you see from the right would be drawn on the right. In first angle, the view from the right would be projected through and drawn on the left. The views in first angle are depicted as if you were looking at an x-ray of the object.

What is 3rd angle projection in engineering drawing? 3rd Angle project is where the 3D object is seen to be in the 3rd quadrant. It is positioned below and behind the viewing planes, the planes are transparent, and each view is pulled onto the plane closest to it. The front plane of projection is seen to be between the observer and the object.

What is 2nd angle projection? The second angle projection is one of the multiview projections. It is located in the second quadrant. The same with the fourth angle, it is not used in multiview projections. The projection system is composed of the vertical plane (VP) and horizontal plane (HP).

What are the 2 types of dimensions in engineering drawing? The dimensions can be classified by types of size: Horizontal — the left-to-right distance relative to the drawing sheet. Here the width is the only horizontal size dimension. Vertical — the up and down distance relative to the drawing sheet.

What are the three lines types commonly used in engineering drawings? Visible line: Indicates an edge is visible in relevant view. Hidden line: Indicates the edge is behind a face. Phantom line: Mostly used to indicate an alternate position of a moving part. Also used to indicate a break when the nature of the object makes the use of the conventional type of break unfeasible.

How many types of planes are there in engineering drawing? Types of the plane: There are two types of planes used in engineering drawing: Perpendicular planes. Oblique planes.

Who uses the 1st angle projection? First angle projection is widely used in India and European countries. The object is placed between the observer and projection planes. The plane of projection is taken solid in 1st angle projection. 2.

Which symbol is used to indicate first angle projection? Large end of the cone nearest to the top view indicates the symbol for first angle projection. Small end of the cone nearest to the top view indicates the symbol for third angle projection.

How to read first angle projection drawing? The drawing is composed of a front, side and plan view of the L-shaped object. The first drawing is the front view (drawn looking straight at the front of the L-shape), the second is a drawing of the L-shape seen from the side (known as side view) and last of all a drawing from above known as a plan view.

Which angle projection is used in the USA? In the third angle projection, the object is placed in the third quadrant. The object is placed behind the vertical planes and bottom of the horizontal plane. Third angle projection is widely used in the United States. The projection planes come between the object and observer.

What is the difference between orthographic and isometric projection? Isometrics show multiple sides of an object at the same time. Orthographics show individual views of the objects.

Why don't we use second and fourth angle projection? As per the rule of projection when the horizontal plane is rotated 90 degrees in a clockwise direction, top and front views will overlap. Overlapping projection views create confusion in the drawing. Therefore the 2nd angle projection system is not used in engineering

drawings.

What is 1st, 2nd, and 3rd angle projection? The views in the first angle projection schema appear in the following order - top left, then clockwise, the Right view, Front view, and the Top view. In the third angle projection schema, the top view is placed above the front view, and the right view is placed to the right of the front view.

What is the best angle of projection? For a non-aerodynamic projectile that is projected at constant velocity from ground level the optimum projection angle is 45°.

What are the 2 types of orthographic projection? First angle projections. and third angle projections. are the two main types of orthographic drawing, also referred to as 'working drawings'. The difference between first and third angle projection is in the position of the plan, front and side views.

Toyota Bluetooth Phone Quick Guide

Pairing Your Phone via Bluetooth

Q: How do I pair my phone with my Toyota's Bluetooth system?

A: Ensure your phone's Bluetooth is enabled and visible to other devices. In your Toyota's infotainment system, navigate to the "Setup" or "Phone" menu and select "Bluetooth." Follow the prompts to search for your phone and establish a connection.

Making and Receiving Calls

Q: How do I make a call using Bluetooth?

A: Once your phone is paired, you can make calls directly from your Toyota's steering wheel controls or infotainment touchscreen. Use the call buttons to dial a number or access your phone's contacts.

Q: How do I receive an incoming call?

A: When an incoming call rings, you will hear an audible alert through your Toyota's speakers. Press the appropriate button on the steering wheel or touchscreen to answer the call.

Accessing Phone Features

Q: Can I access my phone's address book from my Toyota?

A: Yes, when your phone is connected via Bluetooth, you can access your contacts stored on the phone. Use the steering wheel controls or touchscreen to browse and select a contact to call.

Troubleshooting Bluetooth Issues

Q: My phone won't connect to my Toyota via Bluetooth. What can I do?

A: First, verify that both your phone's and your Toyota's Bluetooth are turned on and discoverable. Check for any physical obstructions that may block the Bluetooth connection. If the problem persists, refer to your Toyota's user manual for additional troubleshooting tips.

Structural Analysis by Aslam Kassimali: Solution Manual

Question 1:

Find the reactions at the supports of the simply supported beam shown in the figure below. The beam is subjected to a uniformly distributed load of w = 5 kN/m over its entire length of L = 6 m.

Answer:

- Reaction at the left support: R1 = 3 kN
- Reaction at the right support: R2 = 3 kN

Question 2:

Calculate the internal forces (axial force, shear force, and bending moment) at a section located at x = 2 m from the left end of the beam in Question 1.

Answer:

- Axial force: P = 0 kN
- Shear force: V = +5 kN
- Bending moment: M = -2 kNm

Question 3:

Determine the maximum deflection and the location of the maximum deflection for the beam in Question 1.

Answer:

- Maximum deflection: ?max = 0.0625 m
- Location of maximum deflection: x = L/2 = 3 m

Question 4:

A rectangular column with a height of 3 m and a cross-sectional area of 0.25 m² is subjected to a compressive load of 200 kN. Determine the stress and strain in the column if the modulus of elasticity of the material is E = 200 GPa.

Answer:

- Stress: ? = 800 MPa
- Strain: ? = 0.004

Question 5:

Design a reinforced concrete beam with a span of 5 m to carry a service load of 20 kN/m, in addition to its own weight. Use f'c = 25 MPa and fy = 400 MPa.

Answer:

- Beam dimensions: 200 mm x 300 mm
- Reinforcement: 4 Ø10 mm bars at the top and 2 Ø10 mm bars at the bottom

Service Gratis Honda km berapa? Masa berlaku KPB 1 maksimal 1.000 KM atau 2 bulan sejak pembelian kendaraan, Service pertama ini berupa gratis jasa service dan gratis oli. Sedangkan KPB 2, yaitu hanya berupa gratis jasa service dengan catatan maksimal 4.000 KM atau bulan ke-4 dari tanggal pembelian.

Apa itu Service Ringan motor Honda? Servis Ringan Servis ringan umumnya meliputi pergantian oli mesin, kampas rem, langsam, busi motor, suspensi, lampu,

filter udara, aki, sampai dengan tekanan ban. Berhubung servis ringan tidak mencakup pengecekan area mesin secara langsung, biaya sservis motor yang perlu Anda siapkan untuk servis ringan relatif murah.

Service Honda buka hari apa saja?

Apa itu service kunjung Honda? Program service kunjung ini untuk layanan perawatan motor Honda untuk skala kelompok atau group, dimana teknisi AHASS akan datang ke kantor untuk melakukan perawatan motor dan konsumen tetap dapat melakukan aktivitasnya.

Service 5000 Km apa saja? Servis 5000 km Jika sudah mencapai 5000 km, mobil diwajibkan melakukan servis kedua. Pada servis kedua ini, komponen mobil tidak hanya di cek tapi juga diganti (jika perlu). Adapun komponen-komponen yang akan dicek antara lain kampas rem, filter oli, sistem steering, oli mesin, dan cairan lainnya.

Berapa km service besar? Servis pada odometer 40.000 km atau 2 tahun disebut juga servis besar, karena periode ini dilakukan semua jenis servis pada kelipatan 5.000 km/10.000 km, serta 20.000 km. Servis rutin tadi ditambah lagi servis yang spesifik pada periode ini yakni penggantian filter udara, oli gardan, dan oli transmisi matic.

Apakah servis ringan termasuk servis CVT? GridOto.com - Bagi motor matik, selain wajib melakukan servis mesin, wajib juga servis di area CVT (Continuously Variable Transmission). Mengapa? Karena paket servis CVT tidak termasuk dalam paket servis ringan atau servis berkala.

Berapa lama harus servis CVT? Semakin sering Anda menggunakan motor matic, semakin cepat pula komponen CVT mengalami keausan. Jika Anda menggunakan motor matic untuk aktivitas sehari-hari dengan jarak tempuh yang cukup jauh, servis CVT mungkin perlu dilakukan lebih sering, misalnya setiap 5.000 km.

Berapa harga servis tune up motor? 1. Service lengkap atau tune-up dengan kisaran harga Rp 75.000,- sampai Rp 150.000,- tergantung jenis motor, apakah motor bebek, matic atau sports. Service ini sudah termasuk ganti oli, pembersihan sumbatan-sumbatan dan pelumasan. Tune up bisa dilakukan setiap jarak tempuh 3.000 km sekali atau setiap 3 bulan sekali.

Apakah servis di Honda harus booking dulu? Wajib melakukan booking terlebih dahulu. Anda wajib menunggu di Dealer selama proses service berlangsung.

Servis besar motor Honda meliputi apa saja?

Apakah servis kedua Honda bayar? Servis berkala 1 – 4 adalah servis gratis sedangkan sisanya merupakan biaya sendiri. Mohon diperhatikan bahwa yang gratis hanyalah jasa servis dan apabila penggantian parts maka itu menjadi tanggungan sang pemilik motor Honda.

Apa yang terjadi jika motor jarang di service? Biasanya jika memang motor jarang dilakukan servis secara rutin, maka hal ini akan membuat kondisinya menjadi lebih bermasalah, seperti misalnya filter udara yang sudah tampak kotor, ban motor yang mengalami keausan, hingga sistem bahan bakar yang sudah mulai tersumbat.

Berapa bulan sekali motor harus di service? Pada motor yang sering digunakan, idealnya service motor dilakukan setiap 2-3 bulan. Hal ini untuk mengecek kondisi oli dan ban pada motor agar tetap berada dalam kondisi yang prima.

Berapa kali gratis service motor Honda? Servis berkala 1 – 4 adalah servis gratis sedangkan sisanya merupakan biaya sendiri.

Apa saja yang harus di tune up?

Berapa km oli motor harus diganti? Ganti oli motor juga dapat dilakukan berdasarkan jumlah kilometer yang telah ditempuh atau waktu penggunaan. Mayoritas produsen menyarankan penggantian oli setiap 3–6 bulan atau setiap 4000–5000 kilometer, tergantung pada kondisi penggunaan dan jenis oli yang digunakan.

Servis Berkala 10.000 km meliputi apa saja?

Servis ringan meliputi apa saja? Servis ringan umumnya meliputi pergantian oli mesin, kampas rem, langsam, busi motor, suspensi, lampu, filter udara, aki, sampai dengan tekanan ban. Berhubung servis ringan tidak mencakup pengecekan area mesin secara langsung, biaya servis motor yang perlu Anda siapkan untuk servis ringan relatif murah.

Berapa harga service besar motor? Servis besar, yang umumnya dilakukan setiap 1-2 tahun atau setelah mencapai jarak tempuh tertentu, seperti 20.000 - 25.000 km, dapat membutuhkan biaya sekitar Rp 200.000,- hingga Rp 300.000,-. Selain itu, ada biaya tambahan untuk perawatan khusus, seperti tune up motor, ganti oli gardan, dan perawatan aki.

Berapa KM harus turun mesin? Overhaul atau turun mesin terjadi ketika motor sudah terlalu lama digunakan sehingga terdapat kerusakan signifikan pada mesin. Dengan demikian, servis overhaul biasanya dilakukan setiap 50.000 hingga 60.000 kilometer.

Service CVT tiap berapa? Lantas, servis CVT berapa km? Acip Setiawan menerangkan dalam bukunya yang bertajuk The Secret of Skutik, pabrikan mengimbau untuk rutin servis CVT setiap motor matic menempuh jarak 8.000 km. Namun, pemeriksaan CVT bisa dilakukan setiap 4.000 km sekali.

Kapan bagian CVT harus di service? Penting sekali bagi Anda untuk secara rutin melakukan servis CVT motor matic. Per 10.000 km. Service yang dilakukan adalah melakukan pemeriksaan dan pembersihan di komponen CVT. Tidak lupa juga memberikan pelumas agar gesekan yang terjadi saat CVT bekerja tidak menimbulkan efek panas yang bahaya bagi kendaraan.

Servis CVT biar apa? Filter CVT ini di musim hujan bakal terkena air hujan dan di musim kemarau akan berdebu. Makanya, pemeriksaan dan pembersihan filter CVT perlu dilakukan di setiap 1.000 km. Servis ini untuk memeriksa dan membersihkan komponen CVT agar akselerasi lebih halus.

Kapan Harus Ganti Roller CVT? Umur roller motor matic biasanya berkisar 25.000-27.000 kilometer. Setelah motor melalui jarak tersebut, roller umumnya harus diganti karena penyok atau rusak. Namun, Anda tidak perlu menunggunya rusak untuk mengganti komponen di CVT yang satu ini.

Service CVT apakah harus ganti oli? Dalam sistem transmisi CVT harus bebas air, debu dan oli. Jika tidak, laju kendaraan akan terhambat dimana putaran mesin tidak dapat diteruskan di roda belakang.

Kapan waktu servis injeksi? Maka dari itu, pastikan melakukan servis injeksi setiap kelipatan 10.000 kilometer. Jangan sampai menyesal saat injektor sudah kotor dan mampet sehingga menyebabkan masalah pada motor.

Apakah servis 1000 KM gratis? Benefit terakhir yang perlu diketahui adalah, servis motor pada 1.000 km pertama ini tanpa dipungut biaya alias gratis. Walaupun ada pengerjaan ganti oli, pemilik motor tidak diharuskan membayar ke bengkel resmi.

Berapa km Servis motor Baru Honda? Motor matik dan motor bebek keluaran baru, wajib mendapatkan pemeriksaan dan perawataan kendaraan saat jarak tempuhnya mencapai kurang lebih 4000-5000 km. Jika pengguna motor sport, sebaiknya lakukan servis ketika jarak tempuh sudah mencapai 6000 km, sementara untuk moge kurang lebih 12.000 km.

Service motor setiap KM berapa? Servis 1: jarak 1.000 km atau 1 bulan pemakaian. Servis 2: jarak 4.000 km atau empat bulan pemakaian. Servis 3: jarak 7.000 km atau tujuh bulan pemakaian. Servis 4: jarak 12.000 km atau 12 bulan pemakaian.

Berapa kali gratis oli di honda? Beda dengan sekarang yang kalau beli motor baru Honda cuma dapat 1 kali gratis oli mesin, dan gratis biaya jasa sampai servis ke-4. "Dahulu kalau beli motor baru Honda seperti Astrea Grand atau Honda Tiger, dapat 3 kali servis gratis berserta oli mesinnya," ucap Sapari, Kepala Bengkel AHASS Kawi.

Servis Berkala 10.000 km meliputi apa saja?

Berapa bulan servis pertama motor baru? Saat pertama kali membeli motor, Anda akan dianjurkan untuk melakukan servis sekaligus mengganti oli saat sudah mencapai kilometer 1.000 atau 1 bulan pertama pemakaian sepeda motor. Hal ini dilakukan bukan tanpa alasan.

Berapa bulan sekali harus servis motor matic? Pada motor yang sering digunakan, idealnya service motor dilakukan setiap 2-3 bulan. Hal ini untuk mengecek kondisi oli dan ban pada motor agar tetap berada dalam kondisi yang prima.

Berapa bulan sekali ganti oli gardan? Oli gardan di motor matic perlu mendapatkan penggantian secara teratur. Dalam kondisi penggunaan normal, sebaiknya oli transmisi diganti setiap 12 ribu kilometer atau setiap 12 bulan sekali.

Berapa km service CVT? Lantas, servis CVT berapa km? Acip Setiawan menerangkan dalam bukunya yang bertajuk The Secret of Skutik, pabrikan mengimbau untuk rutin servis CVT setiap motor matic menempuh jarak 8.000 km. Namun, pemeriksaan CVT bisa dilakukan setiap 4.000 km sekali.

Servis ringan meliputi apa saja? Servis Ringan Servis ringan umumnya meliputi pergantian oli mesin, kampas rem, langsam, busi motor, suspensi, lampu, filter udara, aki, sampai dengan tekanan ban.

Service besar di kilometer berapa? Service besar biasanya direkomendasikan setiap 10.000 hingga 15.000 kilometer tergantung pada merek dan model motor. Pada jarak tersebut, beberapa komponen vital seperti oli mesin, filter udara, dan busi mungkin membutuhkan penggantian.

1000 km Apakah harus ganti oli? Umumnya, oli motor harus segera diganti ketika jaraknya sudah mencapai 4000–5000 km. Jarak ini direkomendasikan bagi motor yang rutin dipakai.

Berapa km oli motor harus diganti? Umumnya, oli motor harus diganti di kilometer 3.000 sampai 5.000. Jadi, ketika motor anda sudah mencapai interval ini, anda wajib mengganti olinya. Jika anda tidak mengganti olinya, memang mesin dan performa motor masih terasa normal. Namun, kualitas oli yang buruk akan membuat mesin bermasalah nantinya.

Servis motor Baru Honda dapat apa saja? Setiap pembelian sepeda motor Honda baru mendapat servis gratis sebanyak 4 kali dan penggantian oli gratis sebanyak 1 kali. Servis gratis ini bisa dilakukan di seluruh bengkel resmi Honda (AHASS) yang tersebar di seluruh Indonesia.

Apakah servis pertama harus 1000 km? Tak cuma itu, Muslim menjelaskan bahwa servis 1.000 km juga penting bagi keabsahan garansi. Konsumen yang tidak melakukan servis 1.000 km, dikhawatirkan akan hangus masa garansinya.

Servis Gratis Honda kilometer berapa? KPB 1 , hampir sama seperti type matic atau sport yaitu saat kilometer mencapai 1.000 km atau 2 bulan tanggal pembelian konsumen berhak mendapatkan service gratis dan ganti oli.

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