

الآية

اللَّهُ لَا إِلَهَ إِلَّا هُوَ الْعَلِيُّ الْكَبِيرُ لَا تَأْخُذُهُ سِنَّةٌ وَلَا نَوْمٌ لَهُ مَا فِي

السَّمَاوَاتِ وَمَا فِي الْأَرْضِ مَنْ ذَا الَّذِي يَشْفَعُ عِنْدَهُ إِلَّا بِإِذْنِهِ يَعْلَمُ مَا

بَيْنَ أَيْدِيهِمْ وَمَا خَلْفَهُمْ وَلَا يُحِيطُونَ بِشَيْءٍ مِنْ عِلْمِهِ إِلَّا بِمَا شَاءَ وَسِعَ

كُرْسِيُّهُ السَّمَاوَاتِ وَالْأَرْضَ وَلَا يَئُودُهُ حِفْظُهُمَا وَهُوَ الْعَلِيُّ الْعَظِيمُ

Dedication

We dedicate this project to God Almighty our creator, our strong pillar, our source of inspiration, wisdom, knowledge and understanding. He has been the source of our strength throughout our studying years. We also dedicate this work to our mothers, fathers, brothers, sisters, teachers and supervisor who has encouraged us all the way and whose encouragement has made sure that we give it all it takes to finish that which we have started. To our friends who help us in all aspects of this project. Thank you. Our love for you all can never be quantified. God bless you.

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Abstract

Most of engine companies face the problem of holding and ordering spare parts that are used in maintenance operations. This study investigates the factors of spare parts inventory management for PENTA Diesel Generator in VOLVO Engineering Co. Ltd. The spare parts consumption data was collected from the heavy equipment department. ABC analysis approach was used for classifications of spare parts. Spare parts ordering and holding policy was suggested based on the classification obtained from this approach, the calculation of the Economic Order Quantity for all the spare parts will reduce the ordering cost and holding cost by not storing unnecessary spare parts. Making comparisons between the obtained values and the data collected from the company and it has been found that there are differences between the ordered quantities which increases the cost and makes the customer dissatisfied. The study came to a number of conclusions, the most important of which is that utilizing ABC inventory analysis for spare parts helps the company to place tighter and more frequent controls on high-priority inventory or class A inventory, It is important to constantly monitor the demand for class A and ensure stock levels match that demand. The study also placed a number of recommendations, the most important of which is that categorizing the stored materials into several subsystems (spare parts which have a same application) with ABC classification to insure more efficient handling of the resources and easy to control.

المستخلص

معظم شركات الماكينات تواجه مشاكل في طلب وتخزين قطع الغيار. تناولت هذه الدراسة عوامل إدارة المخزون لقطع غيار مولدات الديزل من نوع بينتا (PENTA) التابعة لشركة فولفو الهندسية. بيانات إستهلاك قطع الغيار تم جمعها من قسم المعدات الثقيلة في الشركة. تم إستخدام تحليل ABC لتقسيم قطع الغيار إلى فئات. تم اقتراح سياسة لطلب وتخزين قطع الغيار بناءً على ذلك، حساب كمية الطلب الاقتصادية لكل قطعة تقلل من تكلفة الطلب وتكلفة التخزين عن طريق تفادي تخزين قطع غيار غير ضرورية. عند مقارنة القيم المتحصل عليها من الحسابات بالبيانات التي تم جمعها من الشركة وجدت فروقات في كميات قطع الغيار المطلوبة مما يزيد تكلفة التخزين ويسبب عدم رضا لدى الزبائن. توصلت الدراسة إلى عدة نتائج، أهمها أن القيام بتحليل ABC لقطع الغيار يساعد الشركة على التحكم بصورة أفضل وأدق في المخزون ذو الأهمية الأعلى أو مخزون الفئة A، فمن المهم أن تتم متابعة الطلب على الفئة A للتأكد من أن الكميات في المخزن تتناسب مع الطلب. قدمت الدراسة أيضاً مجموعة من التوصيات، أهمها أن تقسيم القطع المخزنة إلى فئات جزئية متعددة (كقطع الغيار ذات الإستخدام المتشابه) داخل تقسيم ABC لضمان تصرف أفضل بالموارد وتحكم أكبر.

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