

Budapest Lean Coffee – 2017.04.05



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morzsák...

Kaizen

改善

ShingoECRS

OhnoMethods

Improve

ImprovementTPS

Toyota

PDCA

JobTWI**Ideas**CI

Kaizen – az indulás



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③

HOW TO IMPROVE JOB METHODS

A practical plan to help you produce **GREATER QUANTITIES** of **QUALITY PRODUCTS** in **LESS TIME**, by making the **best use** of the **Manpower, Machines and Materials**, now available.

STEP I—BREAK DOWN the job.

1. List **all** details of the job **exactly** as done by the **Present Method**.
2. Be sure details include all:—
 - Material Handling.
 - Machine Work.
 - Hand Work.

STEP II—QUESTION every detail.

1. Use these types of questions:
 - WHY is it necessary?
 - WHAT is its purpose?
 - WHERE should it be done?
 - WHEN should it be done?
 - WHO is best qualified to do it?
 - HOW is the 'best way' to do it?
2. Also question the:
 - Materials, Machines, Equipment,
 - Tools, Product Design, Layout,
 - Work-place, Safety, Housekeeping.

16—31488-1

STEP III—DEVELOP the new method.

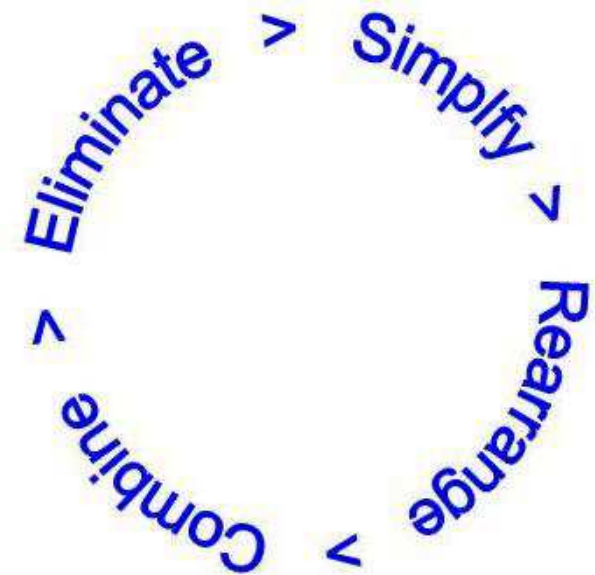
1. **ELIMINATE unnecessary** details.
2. **COMBINE** details when practical.
3. **REARRANGE** for better sequence.
4. **SIMPLIFY all necessary** details:—
 - Make the work **easier** and **safer**.
 - **Pre-position** materials, tools and equipment at the best places in the **proper work area**.
 - Use **gravity-feed** hoppers and **drop-delivery** chutes.
 - Let **both hands** do **useful** work.
 - Use **jigs** and **fixtures** instead of hands, for holding work.
5. **Work out** your idea **with others**.
6. Write up your proposed new method.

STEP IV—APPLY the new method.

1. **Sell** your proposal to the **boss**.
2. **Sell** the new method to the **operators**.
3. Get final approval of all concerned on **Safety, Quality, Quantity, Cost**.
4. Put the new method to work. Use it until a **better way** is developed.
5. Give **credit** where credit is due.

Job Methods Training Program
TRAINING WITHIN INDUSTRY
War Manpower Commission

GPO 16—31488-1



Sorrend - fontosság



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Eliminate: Melyek azok a tevékenységek, mozdulatok, amelyek elhagyhatók?

Combine: Van olyan tevékenység melyet másikkal együtt párhuzamosan (egyidejűleg) lehet végezni?

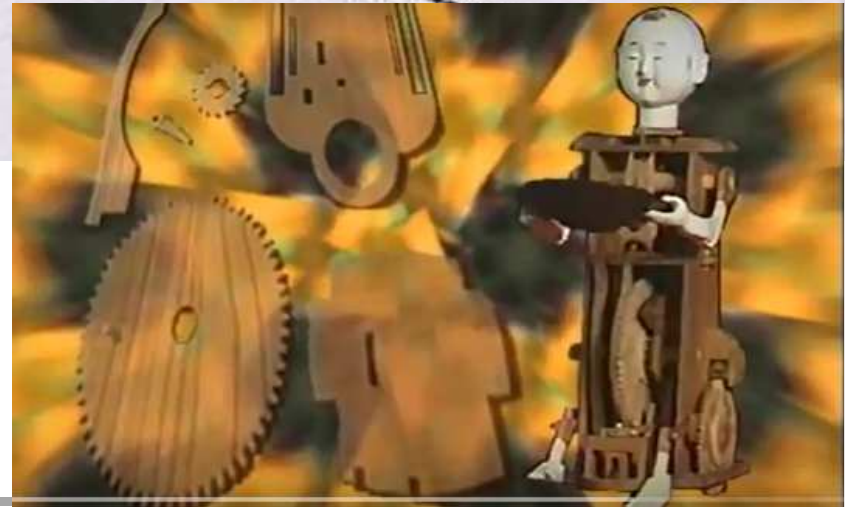
Rearrange: Más sorrendben (helyen, személy által) végezve a tevékenységeket azok hatékonyabbak, eredményesebbek lehetnek?

Simplify: Hogyan lehetne a tevékenységeket egyszerűbben (könnyebben) elvégezni?

ECRS: Simplify



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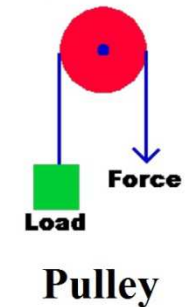
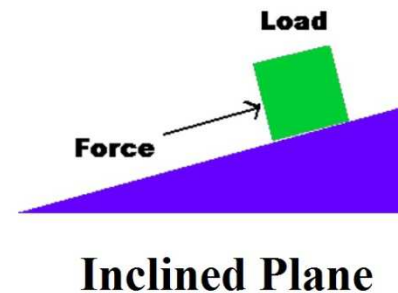
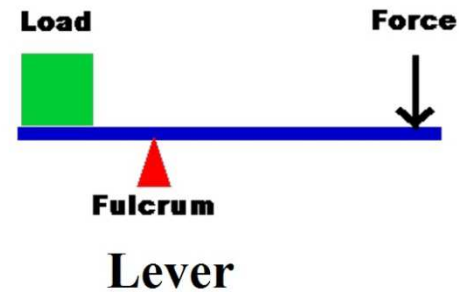


Karakuri Kaizen célkitűzések, elvek



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- Ne használd az emberi kezet, mozgasd a tárgyakat automatikusan – mechanikai energia segítségével
- Ne költ sok pénzt, használd ki a gépek erejét, energiáját
- A gyártósori munkatársak tapasztalata és kreativitása segítségével építsd meg
- Legyen biztonságos, olyan szerkezetet készíts mely megállítja magát.



Wedge



Screw



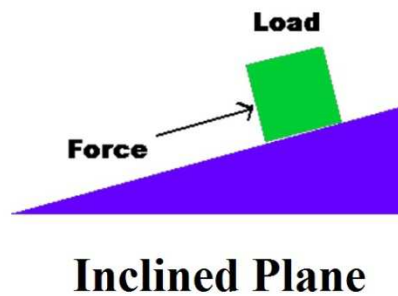
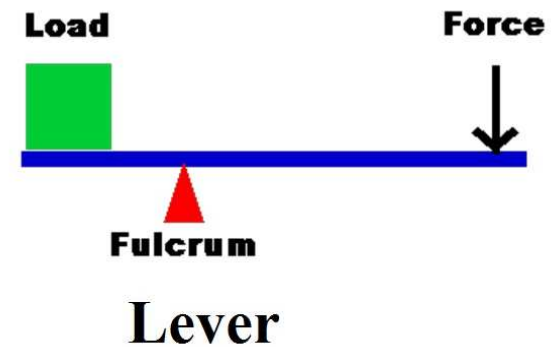
Wheel & Axle

Karakuri Kaizen példák

["https://www.youtube.com/embed/HNTy_V1AOs" frameborder="0" allowfullscreen></iframe>](https://www.youtube.com/embed/HNTy_V1AOs)



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https://www.youtube.com/watch?v=HNTy_V1AOs#action=share

Karakuri Kaizen példák

<https://www.youtube.com/embed/xx0c4pazATo>



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<https://www.youtube.com/watch?v=R4HYNqMJN64>



Karakuri ningyo



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Az automaták „gépesített babák”. Ezt jelenti a „Karakuri ningjou” kifejezés is, amely japán tradicionális történelmi automatáit takarja.

<https://www.youtube.com/watch?v=-vDJ3QCRjvM>

