



Basics of Machine Components

មូលដ្ឋាននៃបំណែកបង្គំម៉ាស៊ីន

Basics of Machine Components

- Shafts ដុំអ័ក្សបង្វិល, bearings ប៉ាដាង, couplings ឧបករណ៍ភ្ជាប់អ័ក្ស



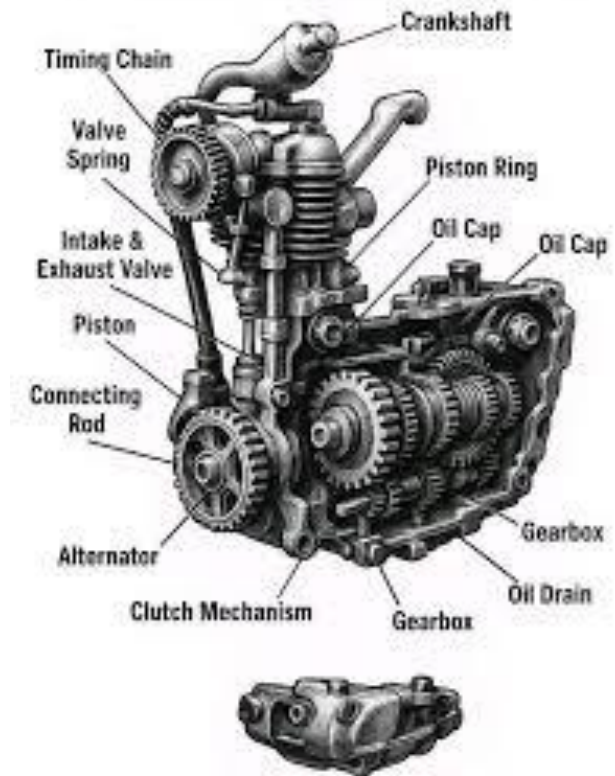
- Power transmission systems (beltខ្សែពាន, chainច្រវ៉ាក់, gearស្ព័រ drives ប្រព័ន្ធបញ្ជូនកំលាំង)

- Seals ទ្រនាប់



Machine Components បំណែកបង្កើនម៉ាស៊ីន

- Machines consist of basic components that transmit motionចលនា and forces (កម្លាំងចលករ)



SHAFTS ដុំអ័ក្ស, BEARINGS ប៉ាដាង, COUPLINGS ឧបករណ៍ ភ្ជាប់ដុំអ័ក្ស

- Shafts

Shafts are rotating elements used to transmit torque បញ្ជូនកម្លាំងបង្វិល
and motion ចលនា



SHAFTS, BEARINGS, COUPLINGS

- Types of Shafts

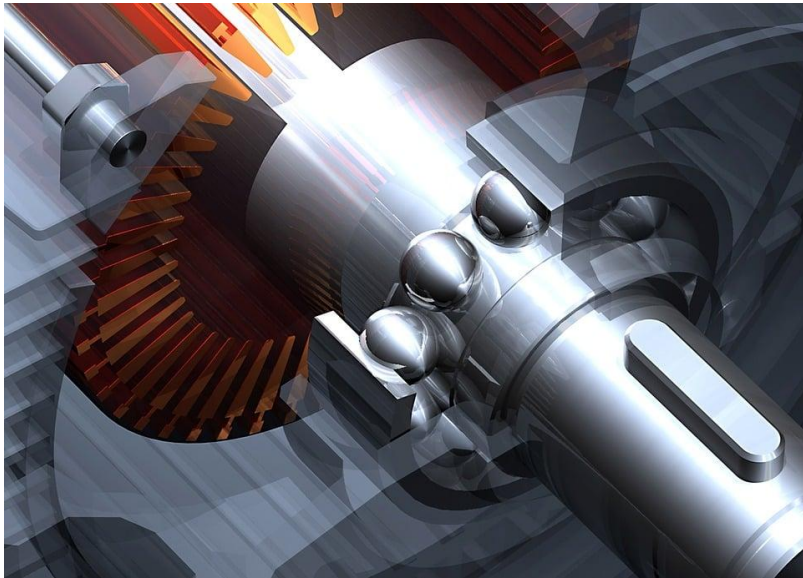
Common types include drive shafts, axles, and spindles



SHAFTS, BEARINGS, COUPLINGS

- Bearings ស្តី

Bearings support shafts ទ្រង់អ័ក្ស and reduce friction កាត់បន្ថយកកិត during rotation



SHAFTS, BEARINGS, COUPLINGS

- Types of Bearings

Ball bearings, roller bearings, and plain bearings are most common

TYPES OF BEARINGS & THEIR USES



Ball Bearing



Roller Bearing



Plain Bearing



Flexure Bearing



Needle Bearing



Linear Bearing



Fluid Bearing



Magnet Bearing



Taper Bearing

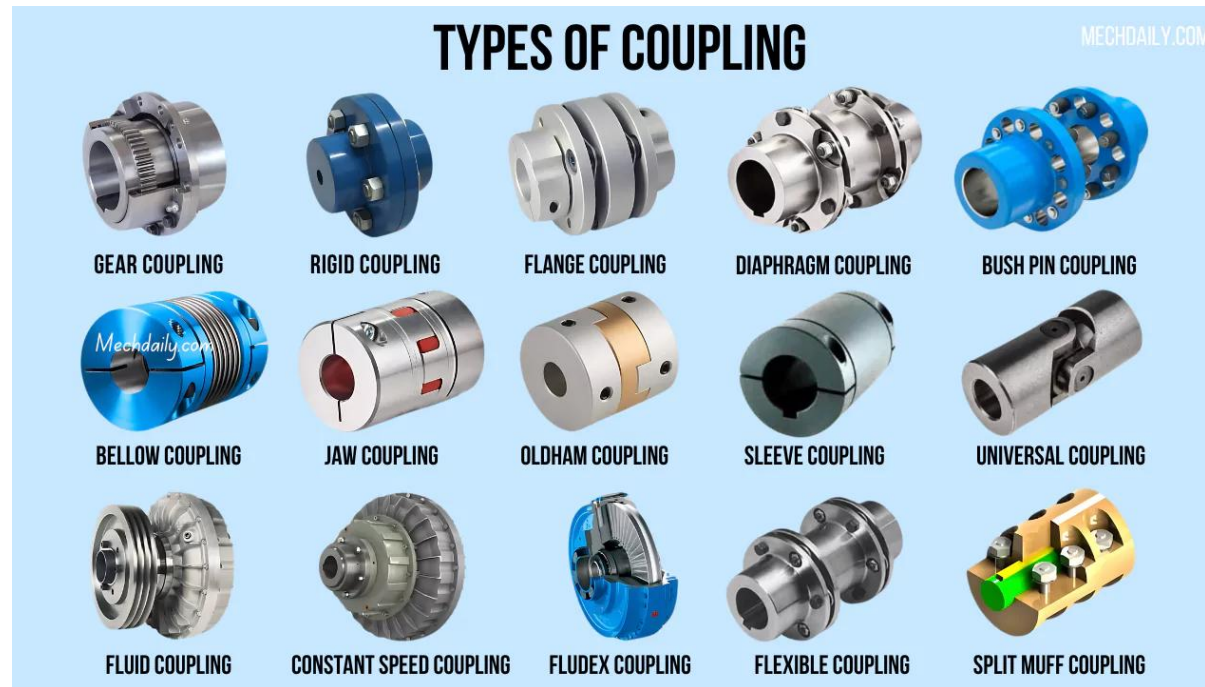


Cylinder Bearing

SHAFTS, BEARINGS, COUPLINGS

- Couplings

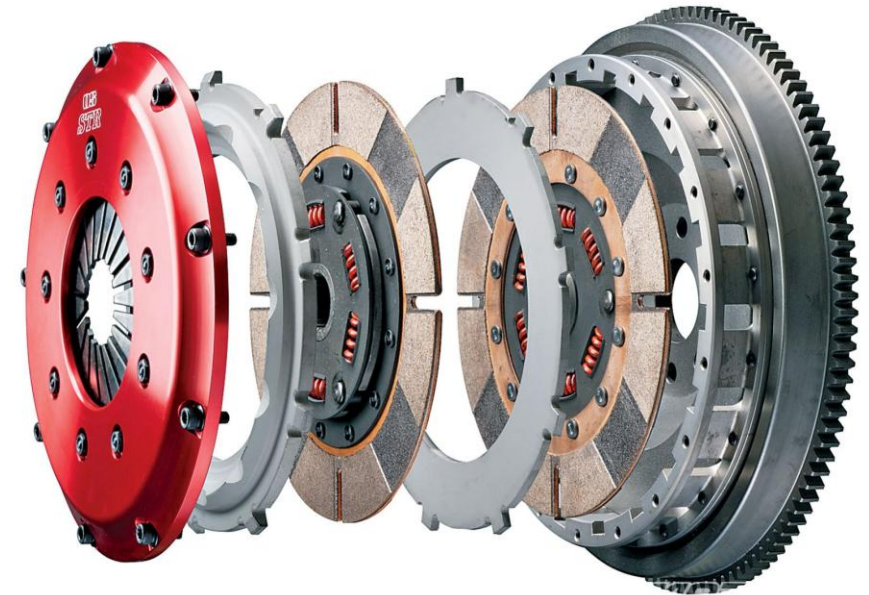
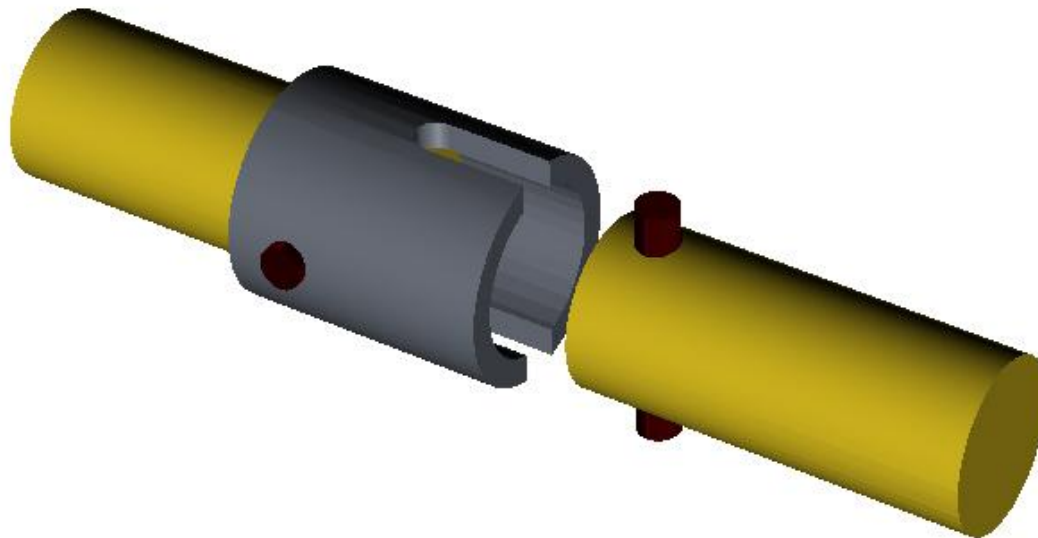
Couplings connect two shafts to transmit torque បញ្ជូនកម្លាំងបង្វិល



SHAFTS, BEARINGS, COUPLINGS

- Function of Couplings

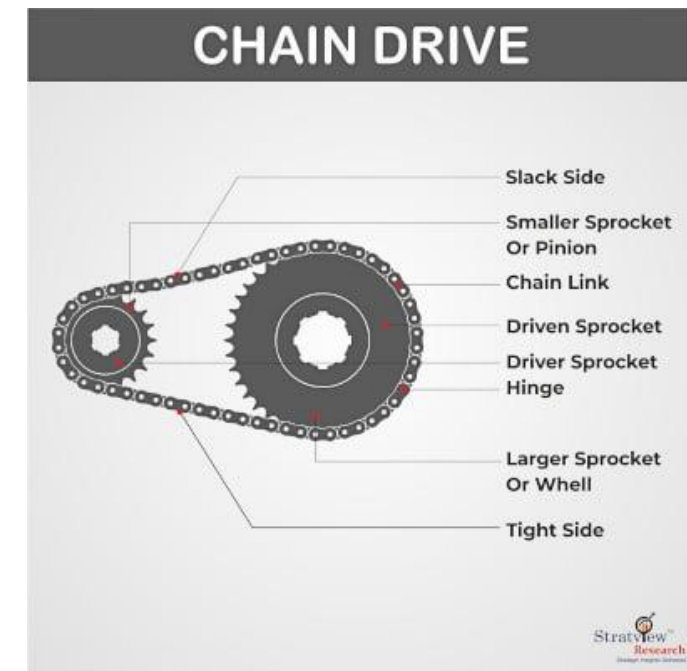
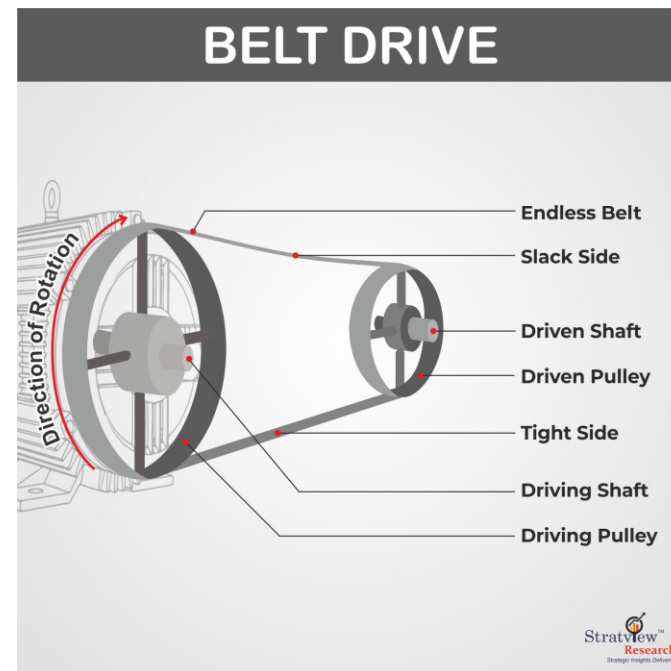
They allow slight misalignment អោយមានគម្លាតបន្តិច and reduce vibration កាត់បន្ថយរំញ័រ រង្វើ



POWER TRANSMISSION

- Power Transmission

Power is transmitted using belts, chains, or gears



POWER TRANSMISSION

- Belt Drives

Belt drives use flexible belts and pulleys for smooth operation



POWER TRANSMISSION

- Chain Drives

Chain drives use chains and sprockets ធ្វើប្រតិបត្តិ for reliable transmission



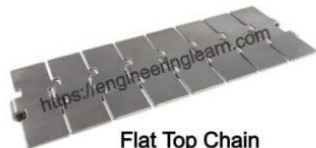
Roller Chain



Silent Chain



Leaf Chain



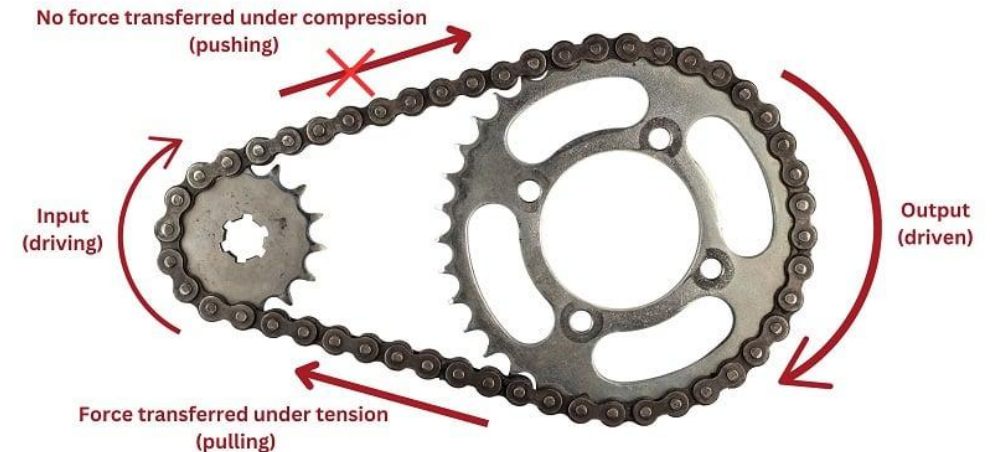
Flat Top Chain



TYPES
OF
CHAIN DRIVE



Engineering Chain



POWER TRANSMISSION

- Gear Drives ស្ត្រី

Gear drives use toothed wheels for precise and efficient motion



POWER TRANSMISSION

- Comparison

Different systems are used depending on load, speed, and conditions

SEALS

- Seals ទ្រនាប់

Seals prevent leakage of fluids and entry of dirt បិទជ្រាប ឬធូលីចូល



SEALS

- Types of Seals

Common types include gaskets រឹង and shaft seals ទ្រនាប់ជុំអ័ក្ស



SEALS

- Importance

Proper sealing increases machine reliability ដំណើរការល្អ and lifetime អាយុកាល។ រូបនេះបង្ហាញទំនាក់ទំនងរវាងសីតុណ្ហភាព និងគុណភាពការការពារការជ្រាប។ អ័ក្សឈរសីតុណ្ហភាព អ័ក្សផ្នែកល្បឿនម៉ាស៊ីន។ បន្ទាប់បែតងជាការបញ្ចេញតួនាទីរបស់ទ្រនាប់ (រឹង)។ កាលណាសីតុណ្ហភាពធម្មតា គឺគ្មានអ្វីកើតឡើង។ ពេលសីតុណ្ហភាពឡើងទ្រនាប់ចាប់ផ្តើមធ្វើការ។ បន្ទាត់ពណ៌ខៀវបង្ហាញពីសីតុណ្ហភាពអតិបរិមាមុននិងធ្វើអោយឧបករណ៍ខូច។ តំបន់លឿងគឺមានសុវត្ថិភាព។

