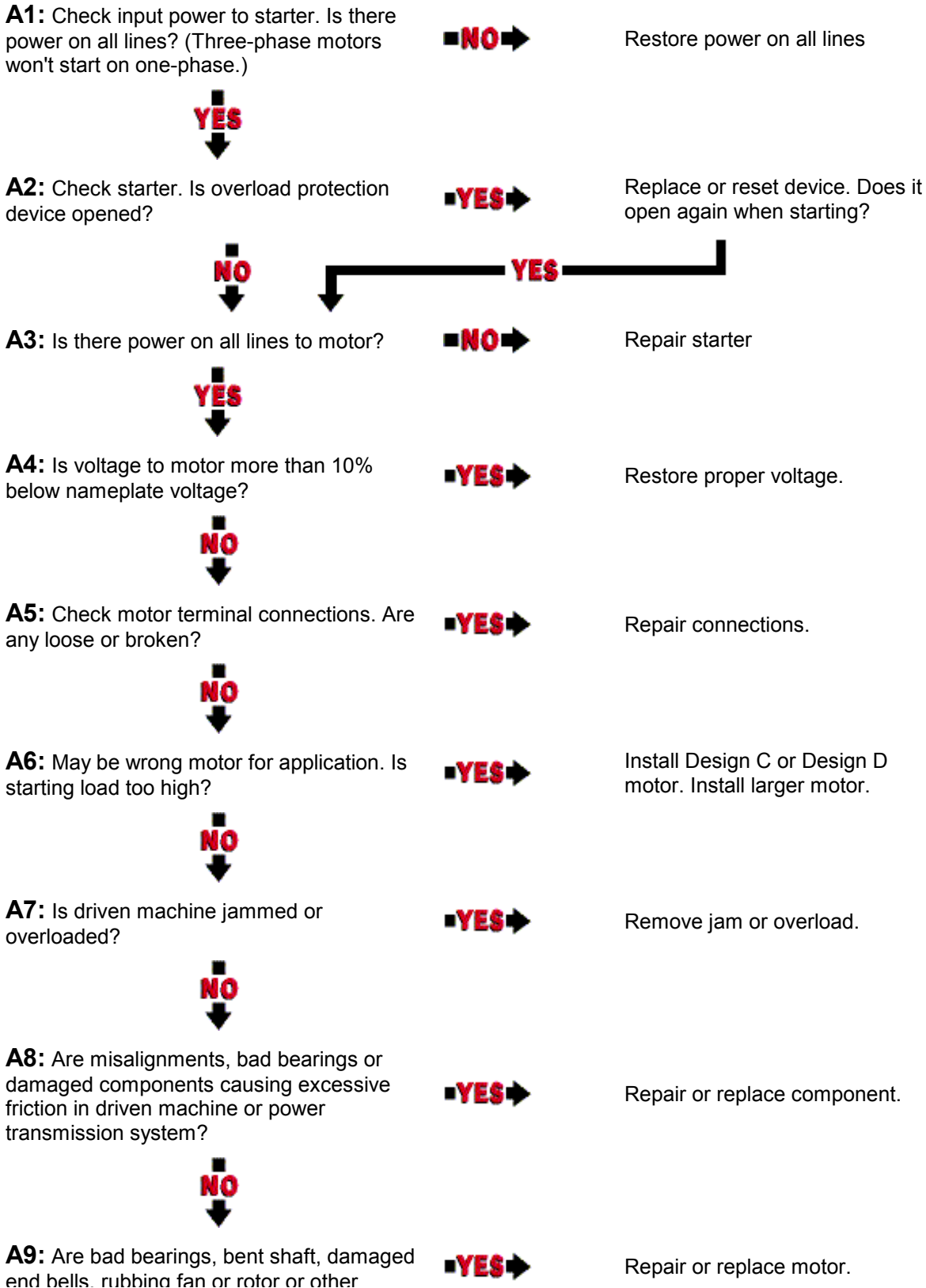


# Troubleshooting AC Motors

## Problem A - Motor won't start or motor accelerates too slowly



problem causing excessive friction in the motor?

**NO**  
↓

**A10:** Check stator. Are any coils open, shored or grounded?

**■ YES** →

Repair coil or replace motor.

**NO**  
↓

**A11:** Check commutator. Are any bars or rings broken?

**■ YES** →

Replace rotor.

---

## Problem B - Motor runs noisy

**B1:** Are vibrations and noise from driven machine or power transmission system being transmitted to motor?

**■ YES** →

Locate source of noise and reduce. Isolate motor with belt drive or elastomeric coupling.

**NO**  
↓

**B2:** Is a hollow motor foundation acting as a sounding board?

**■ YES** →

Redesign mounting. Coat foundation underside with sound dampening material.

**NO**  
↓

**B3:** Check motor mounting. Is it loose?

**■ YES** →

Tighten. Be sure shaft is aligned.

**NO**  
↓

**B4:** Is motor mounting even and shaft properly aligned?

**■ NO** →

Shim feet for even mounting and align shaft.

**YES**  
↓

**B5:** Is fan hitting or rubbing on stationary part or is object caught in fan housing?

**■ YES** →

Repair damaged fan, end bell or part causing contact. Remove trash from fan housing.

**NO**  
↓

**B6:** Is air gap nonuniform or rotor rubbing on stator?

**■ YES** →

Recenter rotor rubbing on worn bearings or relocate pedestal bearings.

**NO**  
↓

**B7:** Listen to bearings. Are they noisy?

**■ YES** →

Lubricate bearings. If still noisy, replace.

**NO**  
↓

**B8:** Is voltage between phases (three-phase motors) unbalanced? **YES** →

Balance voltages.

**NO**  
↓

**B9:** Is three-phase motor operating on one-phase? (Won't start on single-phase.) **YES** →

Restore power on three-phases.

---

### Problem C - Motor overheats

**C1:** Is ambient temperature too high? **YES** →

Reduce ambient, increase ventilation or install larger motor.

**NO**  
↓

**C2:** Is motor too small for present operating conditions? **YES** →

Install larger motor.

**NO**  
↓

**C3:** Is motor started too frequently? **YES** →

Reduce starting cycle or use larger motor.

**NO**  
↓

**C4:** Check external frame. Is it covered with dirt which acts as insulation and prevents proper cooling? **YES** →

Wipe, scrape or vacuum accumulated dirt from frame.

**NO**  
↓

**C5:** Feel output from air exhaust openings. Is flow light or inconsistent indicating poor ventilation? **YES** →

Remove obstructions or dirt preventing free circulation of air flow. If needed, clean internal air passages.

**NO**  
↓

**C6:** Check input current while driving load. Is it excessive indicating an overload? **NO** →

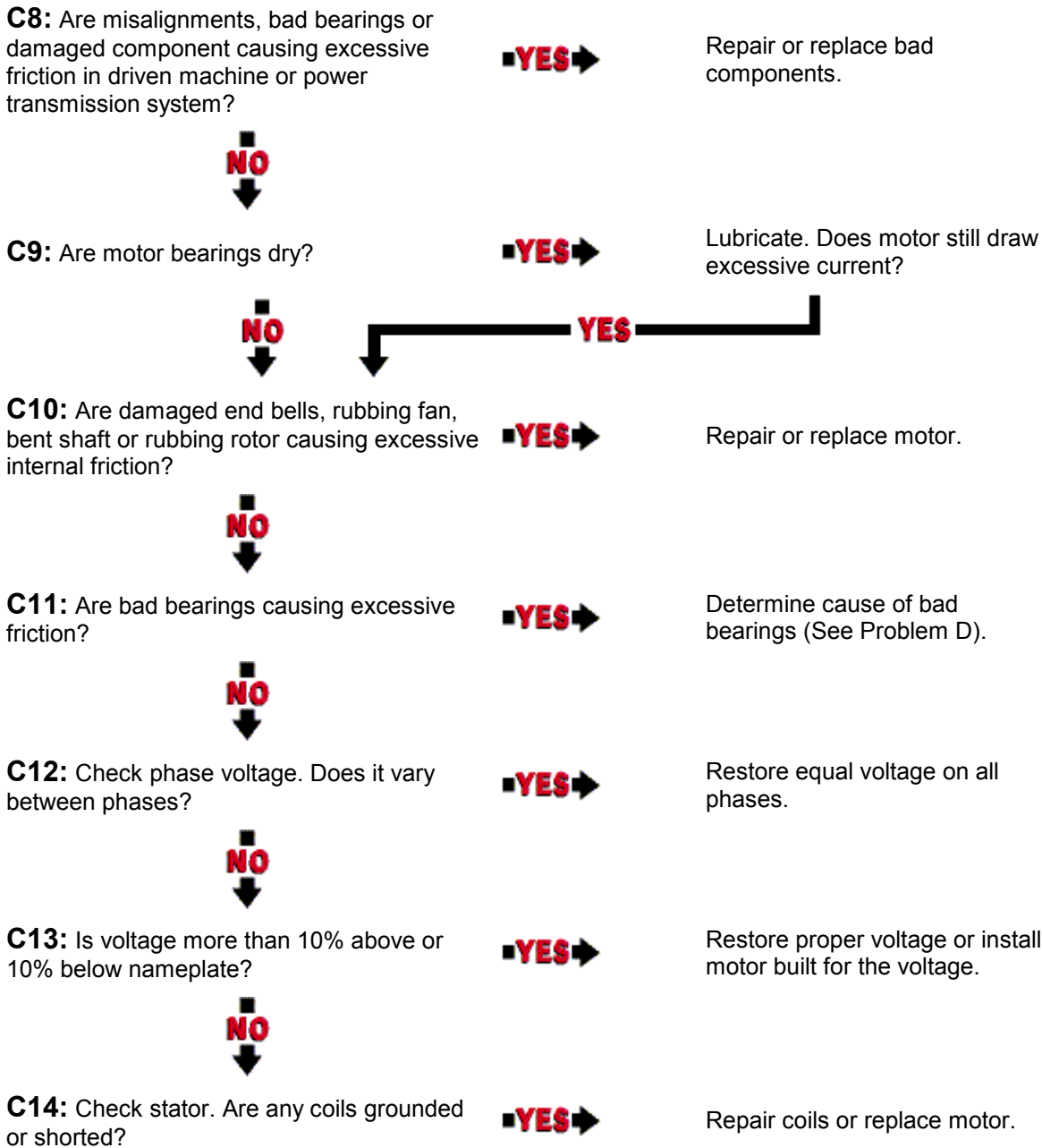
Go to Step C11.

**YES**  
↓

**C7:** Is the driven equipment overload? **YES** →

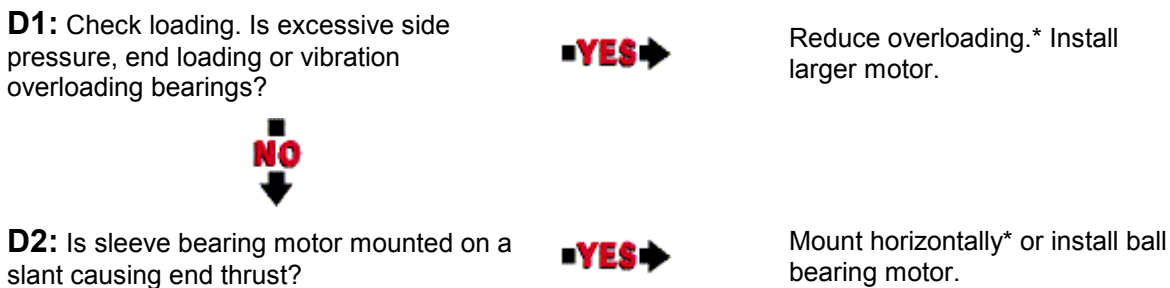
Reduce load or install larger motor.

**NO**  
↓




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### Problem D - Motor bearings run hot or noisy



**NO**  
↓

**D3:** Is bent or misaligned shaft overloading bearings?

**YES** →

Replace bent shaft or align shaft.\*

**NO**  
↓

**D4:** Is loose or damaged end bell overloading shaft?

**YES** →

Tighten or replace end bell.\*

**NO**  
↓

**D5:** Are bearings dry?

**YES** →

Lubricate.\*

**NO**  
↓

**D6:** Is bearing lubricant dirty, contaminated or of wrong grade?

**YES** →

Clean bearings and lubricate with proper grade\*

**NO**  
↓

**D7:** Remove end bells. Are bearings misaligned, worn or damaged?

**YES** →

Replace.