Welding Robot Stopped

Conventional 5-Whys
Sentences written down the page. (81 words)

1. "Why did the robot stop?"
The circuit was overloaded, causing a fuse to blow.
2. "Why is the circuit overloaded?"
There was insufficient lubrication on the bearings, so they locked up.
3. "Why was there insufficient lubrication on the bearings?"
The oil pump on the robot is not circulating sufficient oil.
4. "Why is the pump not circulating sufficient oil?"
The pump intake is clogged with metal shavings.
5. "Why is the intake clogged with metal shavings?"
Because there is no filter on the pump.

Start with a 5-Why
A quick and simple way to start a problem analysis.

Conventional 5-Why Page on the Web

1-Why 2-Why 3-Why
Welding robot stopped Circuit overloaded, causing the fuse to blow
Bearings locked up, insufficient lubrication
Oil pump not circulating sufficient oil
Pump intake clogged with metal shavings
No filter on pump

Better Problem Solving

...then Expand it.
A thorough analysis reveals better solutions.

Lesson: There are solutions in the 17-Why that are unavailable in the 5-Why. Limiting the analysis limits your ability to mitigate risk.