

Services note

Cut SAMI MEGASTAR W drive operating costs with preventive maintenance



Preventive maintenance kits contain all the necessary replacement parts for the specific scheduled maintenance. The content of each kit is carefully defined to match to SAMI MEGASTAR W maintenance schedule. The kits have been specified based on ABB's extensive drive and component maintenance experience.

Benefits

- Pre-defined, genuine service parts are provided according to the maintenance schedule
- Easy-to-order bundled material package
- Kit pricing is more economical than the cost of purchasing individual parts
- Reduced maintenance costs
- Easy-to-plan long-term maintenance material budget
- Increased maintenance performance efficiency

Service provides

The preventive maintenance (PM) kits contain the service parts for preventive maintenance. See the list below:

- Ion exchanger compound and mechanical filters
- Cooling fan
- Cooling pump seals or cooling pumps
- 6 mm pipes for of the snubber circuit
- Backup battery for CPU board
- Pulse amplifier boards (electrolyte capacitors)
- Measuring boards (electrolyte capacitors)

- Auxiliary power supplies board or units
- Chopper capacitors
- Auxiliary chopper capacitors
- Snubber capacitors
- Discharge relays
- DC capacitors
- Fibre optic cables

PM kits can be selected and ordered according to the number of drives in use and their age, ensuring that all the required parts are available for maintenance.

Every PM kit has a type code, which makes ordering straightforward and easy.

Preparations before preventive maintenance

PM kits are delivered on lead-time basis, contrary to normal spare parts, hence the PM kits must be ordered well in advance of the planned preventive maintenance.

More information regarding PM kits, their content, delivery time and price visit: www.abb.com/partsonline.

All labor and service parts included

The preventive maintenance service includes labor, if not agreed otherwise, and the service parts to perform the work according to the maintenance schedule.

Included are inspections of the:

- electric drive and its environmental conditions
- connections
- ribbon and fiber optic cables
- fan and cooling system
- emergency stop circuit
- circuit to prevent unexpected startup
- fault logger
- parameters

Tests include:

- functional testing of the drive under normal conditions, if possible
- basic measurements with supply voltage

In addition, the following can be purchased as options:

- ESD protected cleaning of the drive
- drive spare part inventory

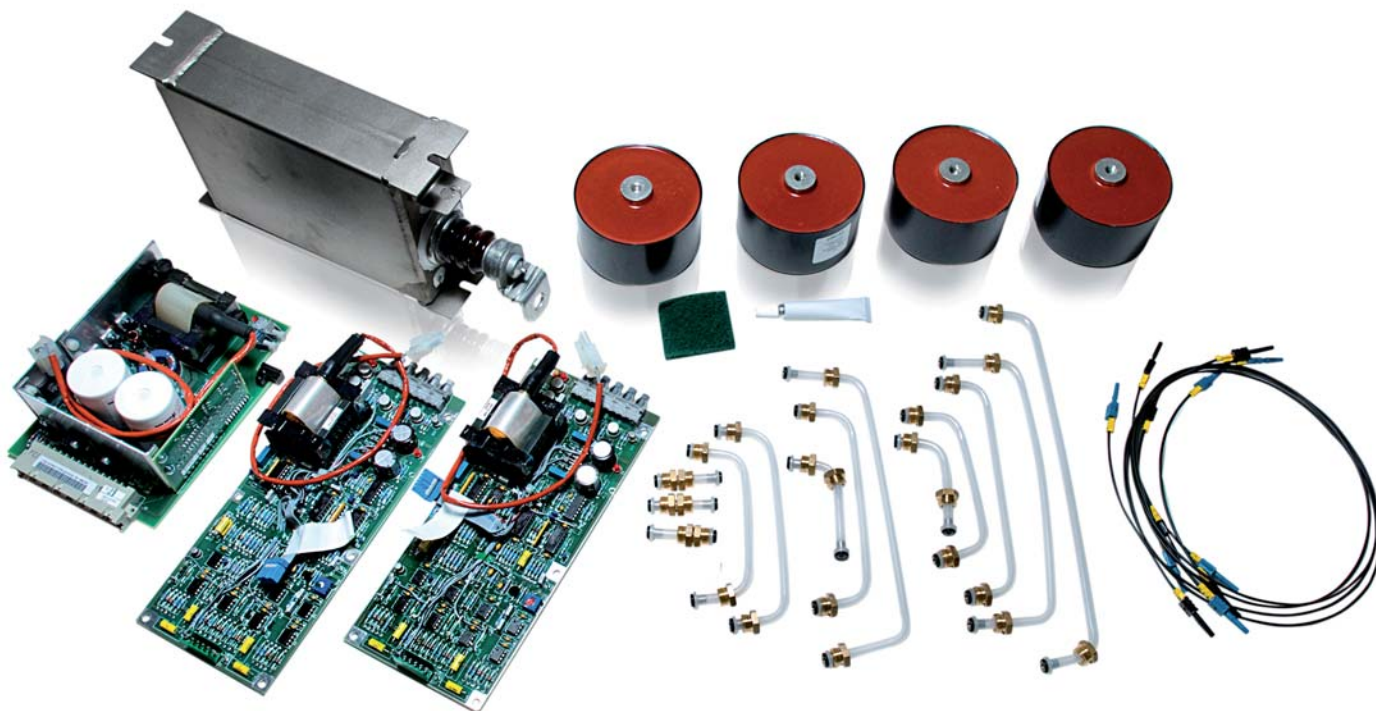
A detailed service report, including recommendations for future actions, is provided once the maintenance work is completed and the inspection data fully analyzed.

	Years from startup																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Startup	P																				
Cooling																					
Ion compound and mech. filters		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
SADT 39 POWP cooling fan		I	I	R	I	I	R	R	I		I	I	R	I	I	R	I	I		I	I
Control rack fan (option)		I	I	R	I	I	R	I	I	R	I	I	R	I	I	R	I	I	R	I	I
Cooling pump seals		I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R
Cooling pumps		I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I
6 mm pipes of the snubber circuit		I	I	I	I	I	R	I	I	I	I	I	R	I	I	I	I	I	R	I	I
Heat exchanger		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Aging																					
Battery of CPU board (4.x ->)		I	I	R	I	I	R	I	I	R	I	I	R	I	I	R	I	I	R	I	I
Battery of UPS (separately agreed)		I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Electrolytic capacitors (PA, PAU, MP, MN)		I	I	I	I	I	R	I	I	I	I	I	R	I	I	I	I	I	R	I	I
Auxiliary power supply board and units		I	I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	I	R	I	I
Chopper capacitors: Old type, cylindrical form, 470µF - replacement interval 6 years, or, see next line.		I	I	I	I	I	R	I	I	I	I	I	R	I	I	I	I	I	R	I	I
Chopper capacitors: New type, rectangular form, 2530µF - replacement interval 10 years. See previous line.		I	I	I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	I	I	R
Auxiliary chopper capacitors		I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I
Snubber capacitors		I	I	I	I	I	R	I	I	I	I	I	R	I	I	I	I	I	R	I	I
Discharge relays		I	I	I	I	I	(R)	I	I	I	I	I	R	I	I	I	I	I	(R)	I	I
DC capacitors (CBU)		I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I
Connections and environment																					
Fiber optic cables		I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I
Cable connections		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Dustiness, corrosion and temperature		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Quality of supply voltage		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Improvements																					
SW / HW upgrade		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Upgrade of TRA and POWF boards		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Extra cooling for inverter unit		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Based on product notes		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Measurements																					
Basic measurements with auxiliary supply voltage		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Measurements of specified components in inverter unit			P		P		P		P		P		P		P		P		P		P
Spare parts																					
Spare parts		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

Note! Recommended maintenance intervals and component replacements are based on specified operational and environmental conditions. ABB recommends annual drive inspections to ensure the highest reliability and optimum performance. More detailed maintenance information can be found in maintenance instructions, product manuals and on the Internet.

Legend:

- I = Inspection (visual inspection and maintenance action if needed)
- P = Performance of on/off-site work (commissioning, tests, measurements or other work)
- R = Replacement of component
- (R) = Replacement if high ambient temperature or cyclic heavy load



A preventive maintenance kit is a selected package of parts needed for preventive maintenance of ABB drives. Some parts from 6- and 8-year preventive maintenance kits for SAMI MEGASTAR drives are shown above.

Maintenance schedule

There is still a commonly held belief that industrial products equipped with electronic components do not require specific maintenance. Based on ABB's experience, however, failure probability of such equipment increases after years of operation. For electric drives this period is typically 5 to 10 years. The main reason for failures is aging of components, but it is also highly affected by operational conditions. A component failure may cause consequential damage to other parts of the drive including power semiconductors.

A maintenance schedule provides a systematic and functional means of maintaining a specific drive type. It is based on

extensive experience and knowledge of manufacturing and maintaining electric drives. Specifications of component suppliers are observed carefully.

The environmental and operational conditions of the drive are also considered. Demanding environment, such as high ambient temperature, humidity, dirtiness or heavy load, can measurably shorten the component lifetime and also the maintenance and component replacement intervals.

ABB recommends an annual inspection in addition to regular maintenance to be carried out to ensure optimum drive performance through its entire lifetime.

PM kits for Megastar

	Yearly	Every 2 nd year	Every 3 rd year	Every 4 th year	Every 6 th year	Every 8 th year	Every 9 th year	Every 10 th year	Every 12 th year
One compound an mech. filters	X								
Cooling fan of 39-power supply			X						
Cooling fan of the control rack			X						
Seal of cooling pump				X					
Cooling pumps						X			
6 mm pipes of snubber circuits					X				
Battery of CPU board			X						
Battery of UPS		X							
Electrolytic capacitors (PA, PAU, MP, MN)					X				
Aux. power supplies SADC33 and 24 VDC							X		
Chopper capacitors					X*			X*	
Auxiliary chopper capacitors						X			
Snubber capacitors					X				
Discharge relays					(X)				
DC-capacitors						X			X
Fibre optic cables						X			

* Old type, cylindrical form, 470µF - replacement interval 6 years, or new type, rectangular form, 2530µF - replacement interval 10 years
X = Replacement
(X) = Replacement if high ambient temperature or cyclic heavy load

For more information contact your local ABB representative
or visit:

www.abb.com/drives

www.abb.com/drivespartners

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