



MAINTENANCE and INSPECTION

COMPANY POLICY: The following are the minimum suggested maintenance practices we recommend based upon normal use. Product application, environment and use may dictate a more stringent inspection and maintenance program than suggested. Also, governmental and/or industry regulations must be viewed and complied with when determining the maintenance program for your specific Miller product. Always remember to contact the factory should you need any assistance in establishing or maintaining your maintenance program.

Should any Miller product become worn or deficient, any attempt at repairs will be taken entirely at the risk and cost of the party making such repairs. We will accept any Miller product at the factory for evaluation, repair and/or replacement after the appropriate arrangements have been made with customer service.

NUTS, SET SCREWS, PINS, BOLTS AND RETAINERS

All nuts, set screws, pins, bolts and retainers should be checked for tightness every 14 to 30 days depending on the operating conditions and the product involved. High vibration applications such as pile driving, drilling and/or quarry work, will require more frequent inspections.

All set screws are staked at the factory. Should they attempt to back out, re-tighten as necessary and re-stake thoroughly. Where furnished, all other pins must remain in place. Replace any missing or damaged pins immediately.

LUBRICATION SCHEDULE

ITEM	LUBRICATION FREQUENCY		
	Under intermittent operating conditions	Under continuous operating conditions	Offshore or submerged conditions
Swivels and Swivel Overhaul Balls	14 days	24 hours	**
Blocks with Bronze Bushed Sheaves	14 days	8 hours	N/A
Blocks with Roller Bearing Sheaves	14 days	24 hours	N/A

Lubricant: Either sodium or lithium base greases may be used. Soda soap base greases are more fibrous and cohesive. Lithium soap base greases are particularly applicable where excessive moisture is present.

REMEMBER: These are the minimum suggested inspection requirements established based upon the general use of Miller products. Only you can and must establish the inspection and maintenance program consistent with your specific application. Always contact the factory should you have any question regarding a Miller product.

***For swivel applications in offshore or submerged conditions a special high pressure, water-resistant grease with oxidation inhibitors is recommended. Please see the Miller website at www.millerproducts.net or contact Miller Customer Service for specific lubrication recommendations for this application type.*

MAINTENANCE and INSPECTION (CONTINUED)

INSPECTION AND MAINTENANCE SCHEDULE/GENERAL

INSPECTION FREQUENCY	ITEM	WHAT TO CHECK FOR	APPROPRIATE ACTION
When used	Hook Latch	Missing or off center, bent, broken spring, missing or defective	Replace immediately
Daily or when used	Hooks, insulating links, and other fittings	Permanent deformation or stretching Cracks or other defects	A clear indication of overload. Take out of service immediately and replace. Any suspicion of fractures calls for an immediate investigation and, if necessary, the replacement of the defective part. ASME B30.10 Suggests that Hooks may require a nondestructive test as a result of detailed inspection findings. Insulator links should be returned to the factory yearly for dielectric retesting.
14 days under continuous conditions	Swivels	Increased or larger than usual gap Rough turning Elongated eye holes, bent clevis pins	Possible overload, Check for rough turning, elongated holes or bent clevis pins. Defective bearings. Remove from service immediately. Indicates overload. Remove for repairs.
30 days under intermittent operating conditions	Sheaves	Misalignment, as evidenced by wobble or uneven groove flange wear Striations or corrugations in sheave groove	Indicates severe bearing wear. Remove from service and forward to factory for repairs estimate. Check for wear in bronze spacers where used. Result of rope wear. If serious, have factory replace.

AC INSULATING LINKS USED FOR POWER LINE ELECTRICAL SAFETY

INSPECTION FREQUENCY	INSPECTION ITEM	WHAT TO CHECK FOR	APPROPRIATE ACTION TO TAKE
EACH USE	CLEANLINESS VISUAL	DIRT, MUD, <u>ANY</u> CONTAMINANT	BRUSH AND WIPE 100% OF EXTERIOR SURFACES CLEAN WITH DAMP CLOTH AND THEN DRY CLOTH. ELECTRICAL PERFORMANCE OF INSULATING LINK DEGRADES WHEN SURFACE IS DIRTY.
DAILY	SET SCREWS	TIGHTNESS	ASSURE SETSCREWS WHICH SECURE UPPER AND LOWER FITTINGS ARE TIGHT AND STAKED.
DAILY	MECHANICAL INTEGRITY POLYMER	CRACKS OR OTHER DEFORMATION	PRESENCE OF ANY CRACKS OR DEFORMATION OF THE ORANGE EXTERIOR POLYMER JACKET REQUIRES THAT THE LINK BE REMOVED FROM SERVICE IMMEDIATELY.
DAILY	MECHANICAL INTEGRITY STRUCTURAL	CRACKS OR OTHER DEFORMATION	PRESENCE OF ANY CRACKS OR DEFORMATION OF METALLIC AREAS REQUIRES THAT THE LINK BE REMOVED FROM SERVICE IMMEDIATELY.
ANNUALLY	ELECTRICAL INTEGRITY	DIELECTRIC PERFORMANCE	PERFORM ANNUAL HIGH VOLTAGE TEST WITH CERTIFIED TEST REPORT BY UNIT SERIAL NUMBER.