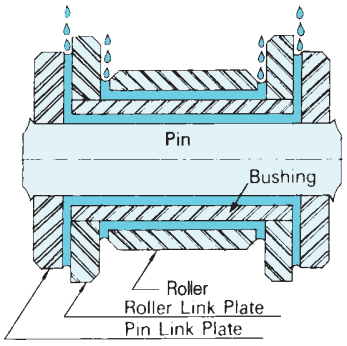
LUBRICATION

Lubrication Increases the Service Life

One of the most important factors in getting the best possible performance out of your roller chain is proper lubrication. No matter how well a transmission system is designed, if it is not properly lubricated, its service life will be shortened.

Lubrication

Wear between the pin and bushing causes the roller chain to stretch. These parts should, therefore, be well lubricated. The gap between the pin link plate and the roller link plate on the slack side of the chain should be filled with oil. This oil forms a film which minimizes wear on the pin and bushing, thus increasing the chain's service life. It also reduces noise and acts as a coolant when the chain runs at high speeds.



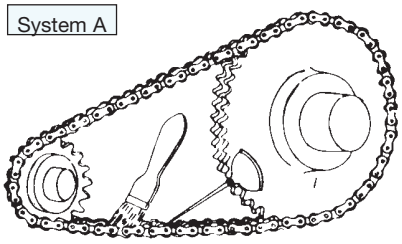
Suggested Lubricants

Only high quality oil should be used to lubricate the roller chain. Neither heavy oil nor grease is suitable. The viscosity of the oil used will depend on the chain size, chain speed and ambient temperature. The lubricants suggested for specific temperature ranges are given in the following table.

Lubricating System	A, B				C			
Ambient Temperature Range / Chain No.	14°F ~ 32°F	32°F ~ 104°F	104°F ~ 122°F	122°F ~ 140°F	14°F ~ 32°F	32°F ~ 104°F	104°F ~ 122°F	122°F ~ 140°F
RS50 or less	SAE 10	SAE 20	SAE 30	SAE 40	SAE 10	SAE 20	SAE 30	SAE 40
RS60 and RS80	SAE 20	SAE 30	SAE 40	SAE 50	SAE 20	SAE 30	SAE 40	SAE 50
RS100								
RS120 or more	SAE 30	SAE 40	SAE 50					

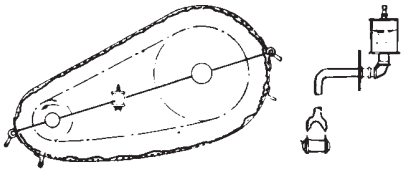
The following three lubricating systems are suggested:

System A



Manual Lubrication

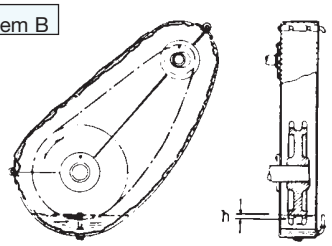
Oil is applied with an oil filler or brush in the gap between the pin link and roller link on the slack side of the chain. It should be applied about every eight hours or as often as necessary to prevent the bearing area of the chain from becoming dry.
Always turn off & lockout the power switch before lubricating or servicing a chain system.



Drip Lubrication

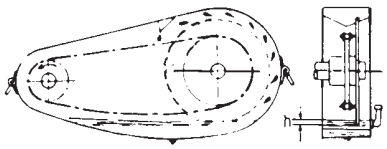
A simple casing can be used. The oil is supplied by drip feed. Each strand of chain should ordinarily receive 5 to 20 drops of oil per minute, according to increases in the chain speed.

System B



Oil Bath Lubrication

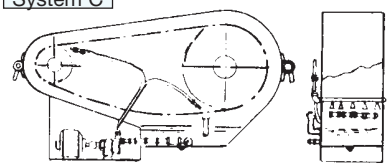
The chain is installed in a leak-free casing. The oil depth "h" should be 1/4 to 1/2 inch deep. If the oil is too deep, the oil will be adversely affected by the heat generated.



Lubrication by Slinger Disc

Install the slinger disc in a leak-free oil casing. Oil is splashed on the chain. The circumferential speed should be at least 700 ft./min. If the width of the chain is greater than 5 inches, attach slinger discs to both sides. The oil depth of "h" should be from 1/2 to 1 inch deep. The chain should not pass through the oil.

System C



Lubrication Using a Pump

Use a leak-free casing. A pump is used to circulate the oil which is then cooled.
The number of supply holes should equal Z+1 where Z is the number of strands of chain. The amount of oil supplied to each hole is constant.

Chain Speed (ft./min.)	Chain Number RS60 and under	RS80 RS100	RS120 RS140	RS160 and over
1,600 ~ 2,600	0.26 gal./min.	0.40 gal./min.	0.53 gal./min.	0.66 gal./min.
2,600 ~ 3,600	0.53 gal./min.	0.66 gal./min.	0.79 gal./min.	0.92 gal./min.
3,600 ~ 4,600	0.79 gal./min.	0.92 gal./min.	1.06 gal./min.	1.19 gal./min.

Regardless of the lubricating system used, the roller chain must be washed periodically with solvent. Examine the pin and bushing after removing the chain. Any damage or reddish-brown color on their surfaces indicate that the system is not being adequately lubricated.