

**WIRE ROPE
CLIP**

**TORQUE
INFORMATION**

WIRE ROPE INFORMATION

Clamp and Thimble Connections (Fig. 1.80) combine both the clamp and the thimble in one unit, and are capable of developing approximately 80% of the wire rope strength.

Cable Clips (Fig. 1.81) The most common method used to make an eye or attach a wire rope to a piece of equipment is with cable or Crosby clips of the U-Bolt and saddle type or of the double integral saddle and bolt type (known as Safety or Fist Grip).

These terminations have the advantage of allowing thorough examination and ease of field installation. When applied with proper care, thimbles, and according to the following tables, clipped eye terminations will develop approximately 80% of the rope strength. All clips must be of drop-forged steel; malleable iron clips must never be used.

U-Bolt clips must have the U-Bolt section on the dead or short end of the rope and the saddle on the live or long end of the rope. The wrong application (U-Bolt on live instead of dead end) of even one clip can reduce the efficiency of the connection to 40%. (Fig. 1.82)

Never use fewer than the number of clips

recommended in Table 1.12. Turn back the correct amount of rope for dead ending to permit proper spacing of the clips. Always use new clips; re-used clips will not develop the proper efficiency. It is equally important to always use a thimble to prevent the rope from wearing in the eye and to provide a safer connection.

Apply the first clip one base width from the dead end of the wire rope. (Fig. 1.83) Tighten the nuts. Apply the second clip adjacent to the thimble, but don't tighten the nuts. Apply all the other clips, leaving equal space between each. For maximum holding power they should be installed 6-7 diameters apart. Take up the rope slack by applying tension to the eye and cable and tighten all the nuts evenly on all the clips to the recommended torque.

After the rope has been in operation for an hour or so, all nuts on the clip bolts will have to be retightened, and they should be checked for tightness at frequent intervals thereafter. This is necessary because the rope will stretch slightly, causing a reduction in diameter which will slacken the clips.

Double saddle clips or Fist Grip clips (Fig. 1.84) are preferable to the U-Bolt clips. It is impossible to install them incorrectly and they cause less damage to the rope. Less turn back is required and fewer double saddle clips than U-Bolt clips are required in some rope sizes as indicated in Table 1.13.

TABLE 1.12

INSTALLATION OF WIRE ROPE CLIPS			
Rope Diameter (Inches)	Minimum No. of Clips	Amount of Rope Turn Back From Thimble (Inches)	Torque in Foot-Pounds Unlubricated Bolts
1/8	2	3 1/4	—
3/16	2	3 3/4	—
1/4	2	4 3/4	15
5/16	2	5 1/2	30
3/8	2	6 1/2	45
7/16	2	7	65
1/2	3	11 1/2	65
9/16	3	12	95
5/8	3	12	95
3/4	4	18	130
7/8	4	19	225
1	5	26	225
1 1/8	6	34	225
1 1/4	6	37	360
1 3/8	7	44	360
1 1/2	7	48	360
1 5/8	7	51	430
1 3/4	7	53	590
2	8	71	750
2 1/4	8	73	750
2 1/2	9	84	750
2 3/4	10	100	750
3	10	106	1200

TABLE 1.13

INSTALLATION OF DOUBLE SADDLE CLIPS			
Rope Diameter (Inches)	Minimum No. of Clips	Amount of Rope to Turn Back (Inches)	Torque in Foot-Pounds Unlubricated Bolts
3/16	2	4	30
1/4	2	4	30
5/16	2	5	30
3/8	2	5 1/2	45
7/16	2	6 1/2	65
1/2	3	11	65
9/16	3	12 3/4	130
5/8	3	13 1/2	130
3/4	3	16	225
7/8	4	26	225
1	5	37	225
1 1/8	5	41	360
1 1/4	6	55	360
1 3/8	6	62	500
1 1/2	6	66	500