

**WAC 296-96-24445 Drive machines.** (1) Belt manlifts shall be driven either by directly connected machines or by multiple "V" belts.

(2) Cast iron gears shall not be used.

(3) Brakes:

(a) On direct connected machines, the brake shall be mechanically applied to the motor shaft and released electronically.

(b) On "V" belt driven machines, the brake shall be mechanically applied to the input shaft and released electronically.

(c) All brakes shall be capable of stopping and holding the lift while carrying its rated capacity.

(4) Belts:

(a) Belts shall not have more than one splice per belt.

(b) There shall not be more than 1 in. of space between the opposing ends of the belt.

(c) A belt manlift that has evidence of severe belt damage shall be removed from service immediately. Belts with severe belt damage shall not be repaired and/or returned to service. "Severe belt damage" means that the protective outer cover of a belt becomes cut, cracked or separated exposing damaged inner fabric, and such damage extends across the full width of the belt, spans between adjacent bolt holes, or damage goes through the entire thickness of the inner fabric. A torn belt is also considered severe.

EXCEPTION: A lap splice that has become cracked or damaged may be converted to a butt splice and returned to service, provided that the damaged area on the splice is completely removed.

(d) The conversion of a lap splice to a butt splice does not constitute a repair.

(e) A belt that has evidence of superficial belt cover damage while in use on a manlift is not required to be replaced. "Superficial belt cover damage" means that the protective outer cover of a belt becomes scratched, cut or cracked exposing the inner fabric. Such damage shall not be continuous across the full width of the belt.

(5) Belts fastening:

(a) Shall be fastened either by a lap splice or a butt splice with a strap on the belt side opposite the pulley.

(b) For lapped splices on manlifts with travel distances not exceeding 100 ft., the overlap of the belt at the splice shall be at least 36 in.; or

(c) For lapped splices exceeding 100 ft., the overlap at the splice shall be at least 48 in.

(d) For butt splices on manlifts with travel distances not exceeding 100 ft., the strap shall extend at least 36 in. on one side of the butt; or

(e) For butt splices on manlifts exceeding 100 ft., the strap shall extend at least 48 in. on one side of the butt.

(f) For 12 in. belts, the joint shall be fastened with a minimum of 20 special elevator bolts with minimum diameters of 1/4 in. To effectively cover the belt joint area, these bolts shall be arranged symmetrically in 5 rows.

(g) For a 14 in. belt, the minimum number of bolts is 23.

(h) For a 16 in. belt, the minimum number of bolts is 27.

(6) All installations shall use machines designed and constructed to hold the driving pulley when there is shaft failure or overspeed.

[Statutory Authority: Chapter 70.87 RCW. WSR 18-18-070, § 296-96-24445, filed 8/31/18, effective 10/1/18.]