

Conduit Flag Poles.

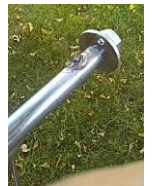
materials used:

- 10 ft x 1/2" conduit (5/8 " bolt just slips inside)
- 5/8" x 2" bolt for flag pole top
- 5/8" washer for flag pole top and Pallet Base Pickup Poles
- 5/8" x 5" bolt for 2 piece 10 foot flag pole and pallet base pickup flag pole
- 3/4" nut (threads drilled out by 3/4 " drill for pallet base pickup flag pole)
- 5/8" nut and lock washer for Pallet Base Pickup Poles

Welds are what are just called rivet welds

Tops of all poles

5/8" washer with 1/4" hole drilled in it. The washer should rotate freely to accommodate a windsock. A 5/8" x 2" bolt rivet welded to hold the washer in place. Flags may be cable tied in place. Putting electrical tape over the cable tie and around the conduit holds the bottom of the flag in place.



10 foot poles that separates into two pieces

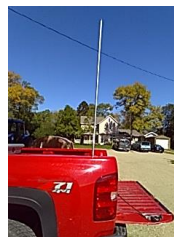
1. cutting the 10 foot conduit into 57-1/2;" and 62-1/2;" pieces and then bolts to the shorter piece will result in pieces of roughly the same length.
2. cut the head off a 5/8" x 5" bolt, insert it into the conduit about 2" with the exposed and rivet weld in place.
3. finish top of pole as described in section *Tops of all poles*



welding the
threads

Pickup Stake Pole Bases - wood block added to conduit

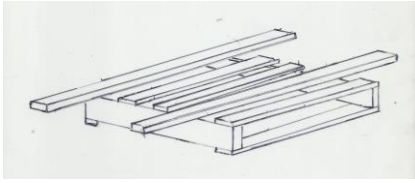
For a 2007 Chevy Silverado a 6-1/8" x 1-2/4" block screwed to the conduit base works well. Be sure to use longer screws. (In prototyping this on 1-1/4" screws were used and when pressure was applied they pulled out and made it impossible to pull the block. It had to be split with a chisel to get the conduit out.



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Pallet Base Pickup Poles



1. Cut the head off a 5/8" x 5" bolt and insert it into the conduit about 2" with the threads exposed
2. Drill the threads out of a 3/4" nut with a 3/4" drill bit. Slide the nut over the 5/8 5/8" x 5" bolt to the bottom of the conduit. Rivet weld in place



3.

Estimated Cost to Fabricate Poles October 2021

Notes:

- cost of bolts at Brookings Runnings is \$2.79 per lb. for grade 2 with 6.5% sales tax
- conduit was over \$8.00 a length at Graybar to under \$7.00 at Runnings and Lowes
- cost of wood and screws probably high at \$0.60

item	lb each	\$/each with tax		pallet		Stake	10 foot flag pole
5/8" Nuts	0.07	\$0.21		1 @ \$0.21 = \$0.21			
5/8" lock washer	0.022	\$0.07		1 @ \$0.07 = \$0.07			
3/4" Nuts	0.11	\$0.33		1 @ \$0.33 = \$0.33			
5/8 x 5 bolts	0.472	\$1.40		1 @ \$1.4 = \$1.4			1 @ \$1.4 = \$1.4
5/8" washer	0.07	\$0.21		3 @ \$0.21 = \$0.63		1 @ \$0.21 = \$0.21	1 @ \$0.21 = \$0.21
5/8 x 2 bolts	0.218	\$0.65		1 @ \$0.65 = \$0.65		1 @ \$0.65 = \$0.65	1 @ \$0.65 = \$0.65
10' 1/2" conduit		\$7.00		0.5 @ \$7 = \$3.5		0.5 @ \$7 = \$3.5	1 @ \$7 = \$7
screws & wood block		\$0.60				1 @ \$0.6 = \$0.6	
Total					\$6.79	\$4.36	\$9.26