

ULTIMATE RACING



We needed to replace this ancient piece of machinery with something more efficient. Along with the cherry picker, we laid out our columns, runways, and bridges to build the main structure of the Shop Crane system around our two-post lift.

Pulling Engines Will Never Be The Same

WE INSTALLED SHOP CRANE'S HALF-TON OVERHEAD CRANE SYSTEM AT CIRCLE TRACK HEADQUARTERS RECENTLY AND LIFE JUST GOT SIMPLER

TEXT AND PHOTOGRAPHY BY STEPHANIE DAVIES

Pulling an engine and transmission out of a race car can be a taxing project when you're using old technology like your basic cherry picker. Enter: Shop Crane. These guys build awesome systems for the do-it-yourselfer to install right in your own garage.

Tim Loughlin of Shop Crane recently visited CIRCLE TRACK's headquarters in Tampa, Florida, to help us install our very own dual-bridge 12-foot system which will make it safer, easier, and much faster for us to pull engines, unload parts out of pick-ups, and

even pull bodies from chassis. Each hoist on our system is rated at 1,100 pounds—much more than we could ever need to pull an engine and transmission.

We installed our Shop Crane around our two-post lift, which is a common application according to Loughlin, who also told us that the systems are available in 8-, 10-, and 12-foot standard sizes but can be built to custom specifications as well. The entire process took somewhere in the ballpark of 3 to 3.5 hours with three people performing the installation.

While the system includes all of the necessary hardware, you'll need a few ladders and hand tools to complete the installation, as well as a hammer drill to create holes so that you can anchor the system into your concrete floor. Hammer drills aren't usually a staple in most shops, so keep in mind many hardware stores rent them for a low daily rate.

Shop Crane systems are extremely versatile and can be customized to fit almost any application. They start at \$2,400. The 12-foot high two bridge electronically controlled system we're installing retails for \$4xxx?.



1

All of the hardware and parts we needed were accounted for including the hoists, trolleys, anchors, and bolts.



2

First, Loughlin, Editor Rob Fisher, and Source Interlink Media Shop Manager Darrell Kunda, picked a starting point for our first column. We knew that our system had to straddle the pre-existing lift, so we measured accordingly and placed the column in the approximate spot.

Next, we measured the distance from the first column to the second and adjusted it's placement, continuing around the perimeter of our rectangle to provide closer measurements.



3

Using rough estimation, we placed the second, third, and fourth columns where we thought they might belong to give ourselves an approximate outline of our system.



4



5

With our perimeter in place, we cross-dimensioned to ensure a perfect rectangle. Making sure that the diagonal measurements are completely equal is a vital step to ensure that your Shop Crane system will be structurally sound and function properly when the installation is complete.



6

After we double checked to make sure that our measurements were sound, Fisher used a hammer drill with a $\frac{3}{4}$ -inch bit to drill four 4-inch deep holes to anchor the first column into the concrete. Notice the blue painter's tape placed exactly 4 inches from the tip of the bit to make it easy to measure the depth of the hole. We also had a vacuum on hand to clean up the concrete dust.



7



Using a hammer, Fisher drove the anchors into the holes before applying the bolts, without tightening them. We needed to be sure there was play in the column so that the rest of our installation would go smoothly.



8

We re-measured yet again and used a marker to mark where the remaining 12 holes needed to be drilled. This is a helpful step that we added so that our measurements would be exact in the case that a column shifted accidentally. It is also important to be sure that the tabs at the top of the columns are aligned facing each other lengthwise so that the runways will fit.



9

After drilling and anchoring the three remaining columns, both runways were carried up to the top of the columns running lengthwise and placed over the columns, locking into the tabs. The runways will support the bridges, which move back and forth from the front to the back of the vehicle.

While the system includes all of the necessary hardware, you'll need a few ladders and hand tools to complete the installation, as well as a hammer drill to create holes so that you can anchor the system into your concrete floor



10

Four bolts were dropped through the holes at the top of each column, securing the runway to the columns, before each nut was tightened with an impact gun.

11



An end truck was threaded onto each end of the runways' tracks. Each end truck has four vertical wheels and two horizontal wheels to allow it to move freely. The bridges will be secured to these end trucks. There is no need to grease the tracks, in fact Loughlin recommends against it. Just take an air hose and periodically blow the tracks clean.

12



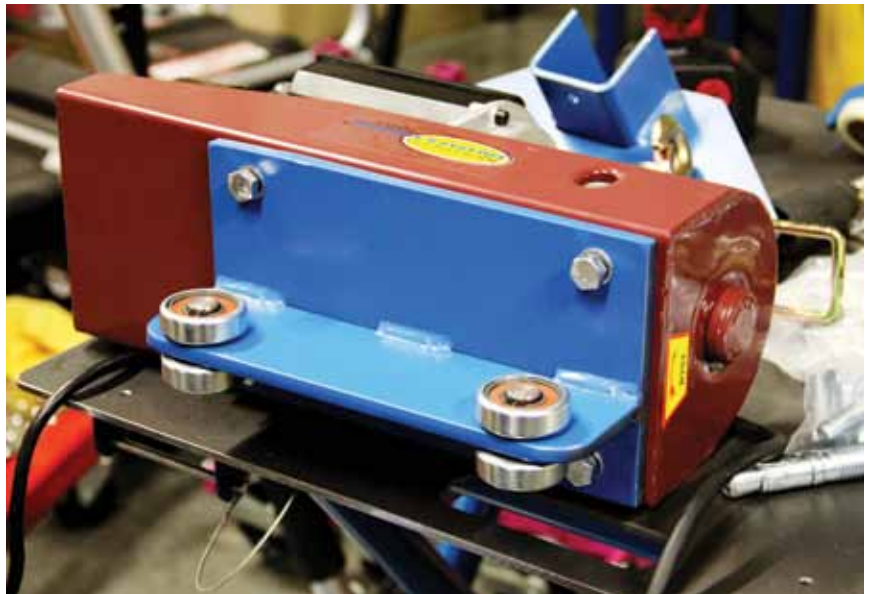
A bolt was threaded across the end of each runway's tracks to keep the end trucks from sliding out and falling onto the ground. Take care not to pinch the tracks by over-tightening the stopper bolts.

13



Next, we went ahead and tightened the nuts to the anchors at the base of our columns, so that each side of the structure was stiff and secure for the installation of the bridges. Remember to check and retighten the bolts a few weeks after installation. You might choose to cut the anchors after tightening so that they are flush with the bolts, to avoid the risk of tripping over the tall bolts.

14



With the structure almost complete, we turned our attention to our hoists and bridges. To prepare the hoists to mount on the bridges, Kunda bolted a trolley onto the top of each one, which allows them to be threaded onto the bridge.

With the bridges turned upside-down, each hoist was threaded onto the track. (Note: We used a forklift to lift our bridges up to the top of the structure. Because each bridge weighs approximately 130 pounds and each hoist weighs an additional 40 pounds, you might choose to wait to install the hoist until the bridge is installed at the top of the structure.) Yellow clips were also slipped onto the track to hold the electrical wire up when we're finished.

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16



Stopper bolts were tightened onto the ends of each bridge to lock them into place atop the end trucks and ensure fit and stability once installed.

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After turning the bridge right-side-up onto the forks of our forklift, we lifted the bridges lengthwise to place them onto the end trucks of either runway. We realize not every shop has a forklift and if yours doesn't go ahead and put the bridge up first and then follow up by putting the trolley once the bridge is in place.

18



Tapped and threaded plates were slipped into the ends of each bridge and bolted down to gap the track so that the ends can't clamp. This is done just in case there is a slight misalignment in the runways, so that the end trucks will have the ability to float in and out just a little bit while the bridge runs up and down the runway.

19



With our Shop Crane installation almost completely finished we installed a tagline to hold the hoists' electrical wires up off of the ground and ensure that they won't get tangled during use. The wire was threaded through the yellow tagline clips along the bridge. These will space out as the hoist is moved after the wire is plugged into an extension cord.

20



To hold up the extension cord, we removed two of the bolts on the inside of the columns on the electric side and installed a cable spanning the length of the runway before retightening the bolts.

21



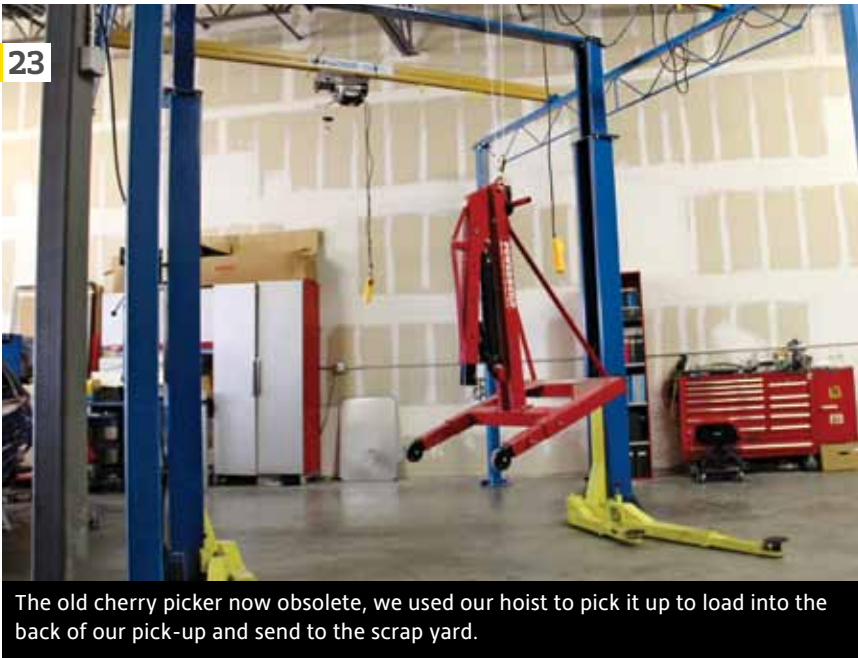
S-hooks were hung on the cable and tightened around the extension cord so that they can move freely as the bridges are moved from front to back.

22



Our wires looped neatly when the tagline was complete.

23



The old cherry picker now obsolete, we used our hoist to pick it up to load into the back of our pick-up and send to the scrap yard.

Pulling an engine and transmission out of a race car can be a taxing project **when you're using old technology like your basic cherry picker**

With our Shop Crane ready for use, we tested it out by pulling the engine and trans out of our CIRCLE TRACK truck in mere minutes. The process was easy, quick, and safe and we couldn't be more impressed with our new system. Want to see it in action? Head over to www.circletrack.com and check out the video.

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