The last few chapters focused on creating ordinary vehicles like cars that you can drive and steer by remote control. That might be enough for some of you LEGO Technic builders, but if you are going to build vehicles out of LEGO Technic pieces, then you might as well build some unusual vehicles. I am talking about the vehicles that can be found at construction sites, such as bulldozers, forklifts, dump trucks, and all manner of specialty-use equipment. LEGO has always been in the business of making vehicles that people want to build, and their earliest sets were of construction vehicles. It is no wonder that their first Technic sets were construction-themed with a bulldozer (Set 951) and a forklift (Set 950). Clearly, the company knew that builders wanted to create vehicles with some very unusual features.

For the most part thus far I have shown how to build complete models of vehicles, such as the 4 x 4 vehicle in Chapter 5. In this chapter, I am going to focus on specific portions of the featured models (truck hoe, bulldozer, forklift, and crane). For example, I will show you how to build a bulldozer swivel and scoop, but you will have to figure out how to build the bulldozer frame (with wheels) yourself. Other model sections that will be discussed are the lifting part of a forklift and the lifting section of a crane.

With these sections as your foundation, you can then decide how best to construct an entire model. As I said earlier in the book, I won’t do all the creating for you; it wouldn’t be very much fun for you if I did!

**LEGO Technic Excavation**

In my opinion, some of the coolest things at construction sites are the big excavators, such as track hoes, backhoes, and bulldozers. I’m not certain how dirty you want to get your particular LEGO Technic creations, but the project that follows shows you how to make some basic working construction features including a track hoe swivel and scoop plus a bulldozer blade, which are good for playing in the sand.

**Project 6-1: Creating a Track Hoe Swivel**

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**Note** Before beginning any projects in this chapter, refer to Appendix A for a complete list of required parts.
One of the advantages of a track hoe is that the driver can swivel around 180 degrees to scoop in any direction within reach. If you want something that can pivot in such a fashion, you can do so remotely or manually.

As you can see in Figure 6-1, LEGO has many types of swivel bricks known as “turntables” or “turning elements” that allow you manually spin your creation. These pieces come in handy for all kinds of spinning creations. In this project, I will show you how to use the turntable all the way to the right.

![Figure 6-1. LEGO Turntable pieces allow for 360 degree spinning on studded and studless creations.](image)

With the proper application of a smaller gear and a motor, you can also use a remote control to automatically spin the part. This alternative uses the Turntable piece with teeth around it, like a large gear as seen in Figure 6-1. If you want to set up a track hoe or crane with this swivel, follow the instructions in Figures 6-2 through 6-17.

![Figure 6-2. Start with a 4 x 2 Angular Beam and then use two 3M Axles with stud as shown. Secure one Axle with two 2M Levers, and a Bush on the other.](image)