

Judge Dredd Shop Out Guide

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Introduction

This guide was inspired by the mrglee guide to shopping out Indiana Jones. So now whenever I shop out a pin I do the same thing. I have done Twilight Zone as well (but have not typed it up yet) and I am about to start a White Water so there will be some more guides associated with this one soon.

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This is the way I did it and this is the first shop out of a Judge Dredd that I have done. I don't think there is anything I would do differently next time round but as always YMMV!

Standard disclaimers apply that having some sort of knowledge before starting a job like this is pretty good.

Pre-requisites to using this guide are:

- Can read
- Can write
- Can count in consecutive unique numbers (don't label each plug "1", it gets very confusing)
- Can screw things in (not up)
- Can unscrew things (even if screwed up)
- Have a Judge Dredd Pinball Machine

There is no guarantee this guide will not stuff your machine!

Good luck and if you have anything constructive to say please feel free to mail me at faustus@wildfire.com.au

Before Beginning

To prepare I put a towel over the pinball next to Judge Dredd, any piece I take out I will put in the approximate correct position on the towel.

All plastics I will protect by placing them flat in a large box I have ready.

Tools

- 2 magnetised cross head screwdrivers (large and small)
- 1 set of sockets (4) with a screwdriver handle
- Novus Number 2
- Johnsons Paste Wax
- Digital Camera

I have a digital camera ready with which I will be taking high-res 1280x960 shots of the progress. The ones on this site

are only 640x480 to conserve space.

Take the glass off the playfield.

Eject all the balls and remove from the table.

Lift the table out forward until it clicks and then rotate the table up till it rests on the backbox.

Go round each plug under the table and write a unique number on it, as well as a key mark if necessary. (I have marked 23 plugs.)

I'm not going to recommend unplugging anything until it actually needs unplugging.

Now lower the table back again and start taking photos, these will be your record of where everything went, the more photos you take the more you don't have to remember.

I'm going to take some of underneath as well just in case I need them.

I've also taken some photos of the back box circuit boards for someone who needed them, I'll put these here for completeness.

[Thumbnails before starting](#)

[Thumbnails of underneath](#)

[Thumbnails of backbox circuit boards](#)

Taking Apart

Remove the skirt from the bottom of the playfield by removing the two screws that attach it to the clips that hold the playfield to the bottom part of the cabinet, also remove the two bolts that attach the top of the skirt to the table. The screws can be kept in the holes they came from, the bolts should be put back in the tall hex pillars that they came out of (two crosshead screws, two crosshead bolts with serrated and normal washers each).

Remove the centre and right drain guides (six hex screws), store the screws that came out in the metal guides holes.

Remove the plastic covering the left shooter lane (2 hex screws + 1 locknut), replace the two screws back into the wood they came from as well as replacing the locknut removed back onto the pillar

Remove the "Mega City Hall of Justice" plastic above the subway pop-up. It has a large eagle building on it. 1 hex screw and one lock-nut also holding the left habitrail. To lift the habitrail enough to remove the plastic you will need to remove the lock-nut holding the habitrail to the left slingshot. Then remove the hex pillar bolt that holds the "Mega City Hall of Justice" plastic. This hex pillar bolt is a little weird IMHO, it has two threads on each end, the longer thread is also a large thread and that is the lock-nut thread, the smaller thread and smaller length is the pillar thread. I kept the bolt from the slingshot back on the post it came from, the hex pillar bolt I put back and the screw from the wood I put back as well. (1 hex screw, 1 lock-nut one hex pillar bolt).

Remove the subway popper wire rail. 1 lock-nut, 2 hex bolts, store the locknut back on the slingshot post, one bolt back in the hole in the playfield and the other back in its pillar.

Remove the left drain guide. First of all raise the playfield and remove the lock nut from the end of the drain guide, then lower the playfield and remove the four screws holding it down. Store the lock-nut and screws on the drain guide. (1 lock-nut, 4 hex screws)

Remove the plastic just left and lower than the left upper flipper. Loosen off but don't remove the two screws to remove it. (two hex screws)

Remove the right hand side of the left shooter lane storing the screws with the piece. (4 hex screws)

Remove the left inlane guide. Lift the playfield and remove the two lock-nuts and washers holding it in. Lower the playfield and unscrew the two screws storing the lock-nuts and screws with the piece. (2 lock-nuts, 2 hex screws).

Remove the left slingshot plastic. Store the lock-nuts on the posts. (2 lock-nuts)

Remove the left side of the left shooter lane. Raise the playfield and undo the lock-nut. Unscrew the hex screw and then the three small cross head screws. Store all with the piece. (1 lock-nut, 1 hex screw, 3 small cross-head screws.)

Now move over to the right side.

Remove the small metal piece next to the right shooter solenoid. Store the two screws with the piece. (2 Hex Screws)

Remove the "Emergency Exit" plastic from the right shooter lane by loosening off the two lock-nuts. (2 Lock-nuts)

Remove the right inlane guide. Lift the playfield and remove the two lock-nuts. Lower the playfield and remove the lock-nut holding the right habitrail to the right sling. Undo the two hex screws holding the guide and remove. Stores the screws and the two nuts on the piece, the lock-nut from the sling should be returned for the time being. (2 lock-nuts, 2 hex screws)

Remove the small inner in-lane guide by raising the playfield and removing the two hex screws. The screws should be stored with the piece. (2 Hex Screws)

Remove the right slingshot. Keep the two lock-nuts on the posts. (2 lock-nuts)

Remove the three cooling tower plastics, store the hex nuts with the towers. (2 Hex nuts per tower)

Remove the steel plate on the right of the playfield that holds up the plastic ramp return. When restoring remember that the screws go on the right of the plate. Store the screws back in their holes. (two hex screws)

Remove the long plastic above the captive balls. Two lock-nuts, a hex bolt and (probably incorrectly) a serrated washer attached to a nut. The plastic will then slide out. Store the nuts and bolt back on the threads they came from. (2 lock-nuts, 1 hex bolt and 1 serrated washer nut)

Remove the three captive balls.

The Ramps

[Thumbnails of ramps](#)

To prepare for the removal of the large outside ramp:

Remove Deadworld upper ring returning the three cross-head bolts to the hex spacers. (3 cross-head bolts)

Remove Deadworld lower ring returning all three cross-head bolts to the stays (3 crosshead bolts)

Lift the playfield then unplug and push up all the opto wires that feed the large outside ramp.

Remove the crane cover plastic leaving screw in crane cover. (1 hex screw)

Unscrew the two small crosshead screws at the ramp entrance. Unscrew the three hex bolts from around the ramp. Finally undo the ramp bolt that holds the ramp onto the bracket above the blackout ramp. Then rotate the ramp to remove (its a little fiddly depending on the position of the Deadworld metal stays. Store the bolts in the hex supports they came from, the bracket bolt back in the bracket and the two ramp entrance screws in the ramp. (4 hex bolts, 2 small cross head screws)

Remove the right Stake Out ramp by undoing the two ramp screws and the hex bolt from the ramp support hex pillar. Remove the ramp by pushing it back off the habit rail. Store the screws in the ramp front and the hex bolt back in the hex support. (2 crossheads screws, 1 hex bolt)

Remove the Sniper Tower plastic from the air raid ramp. Store the screws in the air raid ramp. (2 hex screws)

Remove the Air Raid ramp by undoing the two screws from the front of the ramp as well as the hex support pillar at the back. Store the two screws on the ramp and replace the hex support pillar on the table. (2 crosshead screws, 1 hex support pillar).

Remove small plastic in corner behind the sniper tower, store the lock-nuts back on the posts. (2 lock-nuts)

Remove the Sniper Tower popup wireform, store the hex bolt back in the table. (1 Hex bolt)

Remove the small plastic to the right of the Blackout Ramp. Store the two bolts back in the threads they came from. (1 hex bolt (right), 1 crosshead bolt (left))

Now remove the habitrails. Lift the playfield and push the opto leads for the habitrails through the hole. Undo the three lock-nuts and remove the habitrails. Store the lock-nuts where they came from. (3 lock-nuts)

Preparing to remove the Blackout Ramp.

Remove the metal bracket that holds the Deadworld entrance ramp. Store the two hex screws with the piece. (2 hex screws)

Remove metal ramp cover over the entrance of the blackout ramp by undoing the two bolts holding it.

Remove the plastic behind Deadworld by undoing the two lock-nuts. Store the lock-nuts and the two bolts from the ramp cover back where they came from. (2 lock-nuts)

Remove the Blackout ramp. First unplug all the connectors from under the playfield. Then after undoing the two hex bolts holding it, remove the ramp by fiddling it up and over the two posts at the entrance and underneath the crane. (2 hex bolts).

Remove the rail and plastic from above the subway entrance, store the lock-nuts on the posts they came from. (two lock-nuts)

Remove the small plastic above the "Advance Crime Scene" targets. Replace the lock-nut and hex bolt where they came from. (1 hex nut, 1 lock-nut)

Remove the plastic under the crane. Store the two lock-nuts back on the posts. (2 lock-nuts)

Remove the small metal piece sitting behind the upper left flipper, store the two hex screws with the piece. (2 hex screws)

Now is a good time to remove the crane. Lift the playfield and unplug the crane solenoid lead. Then feed the lead through the playfield. Undo only one of the circlips on either side of the crane hinge and remove the hinge pivot. Remove the crane and put the pivot back into the hinge. Replace the circlip for safe keeping.

Remove the large outside loop metal. Lift the playfield and remove the one lock-nut from the loop. Lower the playfield and remove the 9 screws from the outside. Store the screws and the lock-nut on the piece. (9 hex screws, 1 lock-nut)

Remove the left orbit inside guide. First of all raise the playfield and undo the two lock-nuts, then lower it and remove the two hex screws. Store all on the piece. (2 hex screws, 2 lock-nuts)

Remove the outside edge of the inner loop under the Blackout Ramp. Lift the playfield and remove the lock-nut, to do this you need to remove the switch that is in the way. Don't bother replacing the switch too tightly since we'll be removing it again later to put this lock-nut back. Lower the playfield and remove the two hex screws. (1 lock-nut, 2 hex screws)

Remove the inside guide of the inner and outer loop. Lift the playfield and remove the lock-nut, lower and remove the four hex screws. Store the hex screws and lock-nuts with the piece. (4 hex screws, 1 lock nut)

Remove the left guide of the Sniper Tower shot. Store the hex screws with the piece. (3 hex screws)

Remove the right guide of the Sniper Tower shot. Lift the playfield and get access to the lock-nut. You will probably have to remove the sniper pop-up solenoid to get access to the lock-nut. (2 hex screws, 1 lock-nut)

Remove the little metal plate behind the upper right flipper, store the screw with the piece. (2 hex screws)

Remove the left guide of the captive balls. Lift the playfield and remove the two lock-nuts, then lower and remove the single hex screw, store these with the piece. (1 hex screw, 2 lock-nuts)

Remove the right guide of the captive balls. Lift the playfield and remove the four lock-nuts, then lower and remove the single hex screw, store these with the piece. (1 hex screw, 4 lock-nuts)

Remove the shooter lane ramp and store the two screws with the ramp. (2 crosshead screws)

Remove the shooter lane left guide. Lift the playfield and remove the two lock-nuts, lower and remove the three hex screws. Store nuts and screws with piece. (3 hex screws, 2 lock-nuts)

Remove the left pursuit flashers, lift playfield, unplug and push plug through hole. Lower playfield and unscrew. Store the hex screws with the piece. (2 hex screws)

Remove the right pursuit flashers, lift playfield, unplug and push plug through hole. Lower playfield and unscrew. Store the hex screws with the piece. (2 hex screws)

Remove the rubbers and store. Interestingly enough Judge Dredd seems to have the least amount of rubbers of all my pins.

The Posts

Take lots of photos of the playfield so that you can remember the placement of the posts.

[Thumbnails of posts](#)

To prepare for removing the posts I took plenty of close-up pictures of the playfield around the posts so that I could identify them again. Then I removed them. Some of the posts need under table components removed. The two posts either side of the subway entrance need the drop targets removed and to remove the drops you must remove the light circuit in front of them. I removed the drop targets and then put the back in loosely with a couple of screws. (found I couldn't remove the two posts either side of the subway entrance but it did give me the opportunity to remove the subway entrance and subway tunnel themselves)

Remove JUDGE light circuit to gain access.

Remove Drop target Assembly to gain access. When you finally replace the drop targets my set had three washers to change the angle of them as you look at the drop targets there are four hex screws across the front, the left of centre had two washers and the right of centre had one washer. These washers are a bit of a pig to replace when the playfield is vertical but I found I could do it by sliding them between the playfield and the assembly while pushing the assembly to hold the washer. (6 hex screws and three washers)

Remove Subway Entrance. (3 hex screws)

Remove subway tunnel under playfield. (4 hex screws, 1 switch connector)

At the back of the playfield is a small plastic held to the cityscape. First of all remove the long cross-head screw in the plastic tube, then the plastic held by the hex nut. (1 cross-head screw, 1 hex screw)

Remove the metal plate next to the right shooter lane, store the hex screws with the piece and the two posts with all the other posts. (3 hex screws, two posts with locknuts)

Lift the playfield and disconnect the next 5 components from underneath.

Take the white opto off from the left side of the anti-clockwise little and big loop. (2 crosshead screws)

Take the black opto off from the right side of the anti-clockwise little and big loop. (2 crosshead screws)

Take the lamp off the table behind the little upper right flipper. (1 very short hex screw)

Take the lamp off the table on the right behind the subway entrance. (1 very short hex screw)

Take the lamp off the table below the right front of the Deadworld planet. Very long hex screw with plastic pillar.

Remove the bulbs that stick up above the playfield.

I think that is as far as I am going to go. I could take all the targets out of the playfield or remove the Deadworld globe but everything seems fairly well accessible for a good clean.

Cleaning

[Thumbnails of before cleaning](#)

Next clean and wax the playfield, I use Novus Number 2 and Johnsons Paste Wax but you may wish to use something else.

I will also be cleaning all plastics with Novus on the clear side and soapy water on the printed side.

The metal will be buffed lightly with a buffing wheel and white buffing soap.

Plastic ramps will be cleaned with Novus Number 2.

Black spring metal ramp entrances will be touched up with a Cold Blueing agent. (Actually I hoped this would work but I was very unhappy with the results on an old piece of ramp metal. Back to the drawing board on that one.

I take the trough off for a minute without unsoldering the solenoid, this allows access to the bottom of the trough to clean as well as the blue rubber at the top, this is usually filthy. I then replace the trough and plug the boards back in.

Putting it back together again

You can put new bulbs back in or just clean the old ones. As long as there is no sign of blackening inside the glass I consider the blub reusable. Personally

Okay, well, that's it. Now I am just going to reverse my way back through this list of items. I mark each one that I have done with a pencil line or whatever then I know where to start from when I come back to the job.

One problem I encountered putting it all back together again (apart from a couple of omissions which I have now corrected in the guide) was that when replacing the posts I had two long hex posts with the same thread. They were 1/4 of an inch different in size (the two largest posts actually). My photos didn't hold enough detail to distinguish the posts from each other. I have made a guess from the photos that the tallest goes to the right and the other next to the globe. Guess I'll find out soon enough. Yep, that's the right way round.

