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Subject: Projectiles that "push"

Posted by [htmlgod](#) on Fri, 23 Jan 2004 00:09:42 GMT

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I had a level edit question that I myself have not yet been able to resolve:

I recently heard of a tank in Tiberium Evolution x 12 that had the capability to push vehicles and infantry by firing at them. I tried the mod out for myself, to see if this could be true, and indeed it was. The Microwave tank, when shooting at an enemy, causes that enemy to be pushed in the direction that it is firing. As you may or may not know, I am the leader of Renegade: A New Hope ,<http://swmod.tk>, AKA The Starwars Mod for renegade. I would like to, for jedi of my mod, replicate a similar effect, allowing the jedi to "use the force" and push/pull enemy infantry and vehicles.

So I downloaded Tiberium Evolution, played with the tank for a bit, and then took a look at their objects.ddb settings for the vehicle, the weapon, and the ammo. After about an hour of looking around, I did not find anything particularly out-of-the-ordinary that could be allowing this phenomenon. There were no attached scripts to the vehicle, weapon, or ammo, and no dependencies either. All the presets for these things seemed normal. I want to replicate this effect. Does anyone know how they did it?

[http://nova.deadlyfear.com/newhope/tibevo\\_evidence1.jpg](http://nova.deadlyfear.com/newhope/tibevo_evidence1.jpg) There's a picture of the tank in action, just so you know what I'm talking about.

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Subject: Projectiles that "push"

Posted by [Thiima](#) on Fri, 23 Jan 2004 00:12:53 GMT

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i think they enabled physical collision on the bullets or something?

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Subject: Projectiles that "push"

Posted by [htmlgod](#) on Fri, 23 Jan 2004 00:16:42 GMT

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But it pushes the vehicles up as well, when firing at their base. Furthermore, I tried their projectile on a miniature mod of myself, to see if that was the case, and it seemed not to be.

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Subject: Projectiles that "push"

Posted by [Thiima](#) on Fri, 23 Jan 2004 00:21:47 GMT

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maybe its got something to do with the shape or the insame amount of bullets it fires

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Fri, 23 Jan 2004 00:22:33 GMT  
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Perhaps.... Except I exported their projectile with xcc, and tried it for one of my guns, didn't seem to do anything. I'll try again, though.

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Subject: Projectiles that "push"  
Posted by [IRON FART](#) on Fri, 23 Jan 2004 00:28:41 GMT  
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Maybe reversing the effect of recoil. Instead of having that tank that is firing recoil, have the recoil push the other vehicle. There may be other ways though.

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Subject: Projectiles that "push"  
Posted by [OrcaPilot26](#) on Fri, 23 Jan 2004 00:43:01 GMT  
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Well think about it, this was made back in a time where the community knew little about how Renegade really worked, so they would've found the simplest solution (not involving custom scripts and such)

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Fri, 23 Jan 2004 01:33:47 GMT  
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well I figured out how it works... but it turns out that it doesnt move infantry for some gayball reason, so its not really of much use to me.

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Subject: Projectiles that "push"  
Posted by [IRON FART](#) on Fri, 23 Jan 2004 01:40:05 GMT  
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How does this pushing work?  
Is it some kind of beam that continually pushes? or is it a one-time nudge?

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Subject: Projectiles that "push"  
Posted by [SomeRhino](#) on Fri, 23 Jan 2004 01:44:21 GMT  
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Care to share how it was done? I'm very interested in the capability of the physics engine.

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Subject: Projectiles that "push"  
Posted by [IRON FART](#) on Fri, 23 Jan 2004 01:48:18 GMT  
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And this can probably be used to pull also.

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Subject: Projectiles that "push"  
Posted by [Infinint](#) on Fri, 23 Jan 2004 03:56:27 GMT  
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It might have been an accident or glitch that somehow got achieved with the settings being just right on everything involved... it is possible...

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Fri, 23 Jan 2004 10:37:27 GMT  
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I'm fairly certain that I understand now how it works, and for a "pull" effect, a different weapon would have to be used. Thiima was right about one thing, it involves the massive rate of fire. I'm not 100% sure that I understand how it works completely, but let me tell you what I believe to be a factor:

1. A huge projectile (about the size of the medium tank, looking at it from the top) with curved edges, and physical collision options.
2. A somewhat ridiculous rate of fire (45.0, + crazy burst settings that make this pretty much a fully-automatic shotgun firing massive projectiles).
3. A relatively high SoftPierceLimit on the projectile, which causes it to pass through its target and only minutely displace it.

General Explanation:

Let me try to explain each part.

Projectile - the huge projectile with curved edges served 2 purposes:

1. it ensured that enough of the target was hit by the projectile (IE it wasn't a "glancing" hit) for the target to be displaced.
2. By having curved edges and a rather low velocity, the projectile was made able to "plow" up underneath targets
3. Also, help prevent the target object from kind of warping around when under a barrage of projectiles, they smooth out its trip through the air.

High rate of fire(45), and high spray angle(spray angle = 6.9, spray count = 8) -

This produced an effect somewhat like that of the shotgun, because the spray angle caused a huge amount of variety in where the projectiles flew, but at the same time, the high rate of fire allows for a "flow" effect, which is what really keeps the target vehicle in the air, because the target is continually being pushed up by hundreds of curved boxes. Without the high rate of fire the target will probably experience an effect somewhat like being pushed around by tanks, because individual projectiles produce a choppy displacement effect at best.

SoftPierceLimit -

This is one of the settings in level edit for the Ammo of the weapon. I'm still not 100% sure what it does, but I think I've got a pretty good idea. I know for certain that it allows the projectile to pass through targets, and the part that I'm partially sure about is this: I believe it causes an effect involving the trajectory of the target.... This part is kind of hard to explain. Let me make an analogy:

Pretend the target is a piece of paper suspended in the air, with its broad side facing the person firing at it. If the person firing at it is throwing beany-bags (or anything that will not easily pass through the paper) at the piece of paper, when the beany-bag hits the paper, it will kind of drag the piece of paper, causing both to continue in the direction of the projectile. However, if the projectile is something like a bullet or a dart, the projectile makes contact with the piece of paper, and the piece of paper is briefly affected by the inertia of the dart, but the dart quickly passes through the paper, after which the paper resumes its previous course.

What I'm trying to say here is that each individual projectile seemingly only has a very minute affect on the course of the target, which is caused by their higher pierce limit, which allows them to pass through the target and affect its trajectory, but only minutely. The reason this is done is to ensure a "smooth ride."

Well I hope this gives you some degree of understanding about how the weapon allows the pushing of vehicles. Now I will attempt to explain how pull could be done, and what it would entail: I've been thinking about this for a while, and the way I see it, there is only way that it could be done, but it is still feasible. It would have to be on a different weapon, but it would function the same way as the one I described above.

This is why it would require a different weapon:

In order to push, you would want to create the same effect, except pushing the vehicle towards yourself, you would have to have the projectiles moving towards you, no? The new weapon would have to have bones that were like 50 feet away from the weapon, pointing in the direction of the person, thus firing the projectiles towards the person.

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Subject: Projectiles that "push"  
Posted by [knOwn](#) on Fri, 23 Jan 2004 11:00:19 GMT  
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But wouldnt the bullet hit you, and then it would be a continuous race where you were both the same distance apart? Like a dog chasing it's tail?

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Fri, 23 Jan 2004 11:08:25 GMT  
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You make a valid point: I left something out. You would have to calculate the number of meters from you to the muzzle, and then set the weapon's max effective range just under that.

Subject: Projectiles that "push"  
Posted by [TheMouse](#) on Fri, 23 Jan 2004 14:56:23 GMT  
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what the fuck is in that pic? the flying invisible texture mobile?!

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Subject: Projectiles that "push"  
Posted by [Renx](#) on Fri, 23 Jan 2004 16:35:02 GMT  
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That's too bad, the engine doesn't leave much hope for your force powers...

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Sat, 24 Jan 2004 00:13:20 GMT  
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The pic is several screenshots merged together of the microwave tank in action. You can see it's massive projectile pushing and displacing a hummer. Lol.

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Subject: Projectiles that "push"  
Posted by [General Havoc](#) on Sat, 24 Jan 2004 12:07:11 GMT  
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What if someone is driving the vehicle you are trying to push?

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Subject: Projectiles that "push"  
Posted by [htmlgod](#) on Sun, 25 Jan 2004 00:16:31 GMT  
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they get moved, hehe.

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Subject: Projectiles that "push"  
Posted by [Blazer](#) on Sun, 25 Jan 2004 05:42:47 GMT  
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Unless I am mistaken, the softpierce limit dictates how many INFANTRY bodies a projectile can go through. If you look at the settings for and experiment with the ramjet rifles projectiles, the softpierce is why you can kill multiple people in a row.

I would imagine they set a high softpierce for the microwave projectiles so they would pass harmlessly through infantry...otherwise someone could just stand between the tank and its target

and the "bullet" would stop when it hit them.

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Subject: Projectiles that "push"

Posted by [dufis791](#) on Sun, 25 Jan 2004 17:08:50 GMT

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i have played w/ making doors and possibly found your answer.

the "bullets" need a push collision setting.

you can add the push setting to anything in the presetts library by using the "mod" button.

adding this setting to the "bullet" should cause it to push the object away. (the setting should be set for vehicles and infantry) dont know how to mod vehicles and such, letalone tell it where the bullet is, but that should work to get it to push things

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Subject: Projectiles that "push"

Posted by [htmlgod](#) on Mon, 26 Jan 2004 14:43:49 GMT

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but where in the library is the "push" physics option for the ammo? I dont tihnk it exists, that seems to be primarily for vehicles/infantry that you set the collision type.

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Subject: Projectiles that "push"

Posted by [dufis791](#) on Mon, 26 Jan 2004 22:59:12 GMT

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idk, i aint an expert, but i try to help if i can

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