

Source: <http://www.geocities.com/Pentagon/6985/talker.htm> - Updated: 04/10/1998

# Talking GI Joe® Repairs

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## Step By Step Instructions

Here are the directions for working on the talking mechanisms. I believe these directions are now online at the [N-P.C. Collectors Bootcamp](#) so be sure to have a look there too.

1. The first things to do is gather tools together. Useful items are rubbing alcohol, an exacto knife, tweezers, very small flat-tip screwdriver, soft cloth (cotton tee-shirts), tri-flow oil, toothpicks, needle-nose pliers, and very helpful but not necessary is a hobby vise with suction bottom. You will also need a crochet hook or a stiff piece of wire with a small hook on one end.
2. The first step is of course to remove the talking mechanism. If your Joe still has his dog-tags attached, you must carefully remove them from the pull string. This means removing the chain as well, as it will not fit through the small hole, while still attached to the pull string. If the string gets away from you and winds up inside Joe, don't worry at this point. Remove the 2 screws on Joe's upper back, and carefully open him up. Use caution as there are 2 pilot points near his waist, and a retainer peg in his upper torso for holding the elastic band for his lower half. Carefully remove or loosen his back plate. This will allow you to remove his arms and head. Use a small box to put his body parts in. With the arms and head out of the way finish removing the back plate. Place it with the other parts as well. *When removing the back plate it sometimes helps to bend joe forward.* This will expose all of the ball joint at Joe's waist. With Joe's upper torso in your hands you can now remove his talking mechanism. Under the mechanism there should be a round white plastic speaker. Handle this with great care, as the plastic is thin, and sometimes quite fragile. Visually inspect the speaker for holes, cracks or other defects. With rubbing alcohol and a piece of tee-shirt, carefully clean the speaker of any dirt or other residue. Set aside.
3. Talking mechanism: Visually inspect the mechanism for any broken parts. When you first removed Joe's back you may have noticed a small foam pad, or a mass of sticky goo that was a pad. If the foam rubber is good disregard it. If it has turned

to a sticky mass, carefully use the exacto knife and scrape away as much of it as you can. Now carefully inspect the fly-wheel housing. There are two types: one has a surround type top, and the other has a flat top. With either one you must carefully remove it. Using the exacto knife, carefully pry on the top cap. You must break the glue seal in order to remove it. Some breakage will occur, but be as careful as you can. Once removed, set it aside. But remember which way it came off. Now remove the fly-wheel assembly. This is a weighted spindle with two swing arms on it. Use extreme caution as not to disturb the felt pads located on the arms; there should be two!

With the fly-wheel removed and using a modelers paint brush, liberally wash the mechanism with rubbing alcohol. This will remove most dirt and debris. Another part you may want to remove at this time is the tape support bracket. This is held in place by a spring located on the side of the mechanism. Gently slide the spring off the bracket peg. The playing needle may be removed also. It is simply held in place by a metal swedge pin. Carefully pry the playing needle housing off the talking mechanism. *Be* careful not to loose the retaining pin or tiny spring attached to the needle assembly. With the needle removed it is easier to clean. *Set aside.* With the needle removed the tape support bracket can be removed by tilting sideways and lifting it out of its position. *Set aside.*

There are only two main components left. The plastic recording tape and the metal recoil tape. You can clean part of the metal recoil tape with a soft cloth and alcohol, by pulling the draw string and holding the cloth to it. Under no circumstances try to remove the recoil spring! Also use great care when trying to clean it, as it damages easily, and dents and bends will affect the way it works. Holding the mechanism in one hand pull the draw string all the way out. This will unroll the talking tape all the way out. Hold the draw string with 2 free fingers of the same hand or wrap the string around a finger. This is where the hobby vise comes in handy, as it can hold the mechanism, allowing you to have both hands free. With the tape pulled all the way out, use a piece of soft cloth, dipped in alcohol, and wipe both sides of the tape. This can be done by holding the cloth on both sides of the tape (gently) and letting the draw string go. The tape should rewind itself. It may be necessary to repeat this procedure a few times. Sometimes the plastic tape can become stretched with age, and joe may not start his first line properly. The tape can be advanced by removing the small metal retaining pin on the tape spool. Be absolutely sure you have to advance the tape before you try this! Also don't remove this pin over carpet, as it becomes easily lost. The pin must be pried loose and forced back into position. A very tough procedure. Also if you try this don't advance the tape by much. A small adjustment is all that is needed, sometimes only 1/8 of an inch.

4. Once you are satisfied the tape and other parts are clean. Lubricate all the pin locations. Using a tooth pick and tri-flow oil, apply small amounts of oil to the pin locations on all spools. Also using a toothpick apply a small amount of vaseline to the small gear on the tape spool. Re-install the tape support bracket, re-attaching the spring. And re-install the tape recording needle, remember to re-attach the hair-like spring to it's original position.

5. Now comes the fun part! How did joe talk? Was it fast or slow? If it was fast you might try using the needle nose pliers and gently clamp down the swing arms on the flywheel assembly. Be very careful with this as the metal is cold cast (pot metal) and can break easily! If joe talked slow you can use the exacto knife and try to shave or cut off a thin slice of the felt pad on the flywheel assembly. If the pads come off you can re-attach them using a small dab of rubber cement. Be careful not to get the cement on the outside of the pad. Carefully place the flywheel assembly back into the mechanism and reinstall the top cap. Modelers glue (glue pen works good) or crazy glue can be used for this. Remember to reinstall it the way it came off. After the glue has set test the mechanism to see how it works. Usually you will need to have the draw string weighted to keep it from getting tangled on it's spool. A piece of fishing line with a small weight attached works good for this, as it can be cut loose afterwards and tossed. Replace the speaker in the chest piece , then pull the draw string out just enough to thread it through the hole in the chest piece. Carefully place the mechanism into place , and hold it there with your fingers. Now you can pull the string the rest of the way out and test how joes voice sounds. I usually place a tooth pick through the dog-tag loop to keep the draw string from going back inside the chest. If he sounds okay, and the foam rubber pad is still in good shape Joe is now ready for re-assembly. If the foam pad had to be removed, cut a small piece of foam 1/2 inch thick and large enough to cover the place where it was removed. Glue it in place with rubber cement.
6. Carefully place the elastic string over the peg in the upper torso, and carefully bend the torso forward. Place the back half in place and let waist socket return to normal. Leave the upper torso cracked apart enough to allow the replacement of the arms and head. Holding the body halves together re-install the 2 screws. Carefully put the dog-tag chain back through the loop, and put back on the dog-tag. Pull Joe's string and see how he sounds. If things went smoothly he should sound good. If he still sounds strange try some of the more advanced methods. First and foremost though read through both set of instructions and see if you can determine which way to go.

Well I hope these help you, and remember not to give up. Joe is pretty old so it may take some time to get him right! Don't try to rush the repair, And don't loose those small parts! -- [Fshstx@AOL.COM](mailto:Fshstx@AOL.COM)

## Rusty Spool Axel

The plastic take-up spool for the voice tape revolves on a metal axle. The axle is press fit into the mechanism housing. Start this repair by carefully pressing the axle out, using care to hold the spool with your free hand. It might help to have someone help you. Have a wooden match stick nearby to place in the hole vacated by the metal axle. Use great care here because the spool is spring loaded and if it slips, you're going to have a pretty big mess on your hands that will probably total that particular talker. Examine the removed axle, is it rusty? Was this a slow Talker? You may have found your problem!

Chuck the axle in an electric drill, get some 400 wet or dry sand paper and some 3 in 1 oil . Sand the rust off of the axle, using lots of oil. If you drill has a variable speed, set it on slow and work up making sure to use enough oil. This method produces a good clean axle while terminating the rust.

When you are done, clean the axle and the axle hole on the take up spool with alcohol. Q-tips do a good job in the axle hole. Lubricate the axle with a couple of drops of the Tri-Flow oil and press the axle back in.

## Faulty Flywheel

These talking mechanism have flywheels which are supposed to control the speed of the voice. Some of the most common problems with these flywheels are a result of age and use (abuse)? This is why your talker either talks too fast or toooo sloooooow. To fix this part you have to remove it and that can get a bit scary.

There are two kinds of covers over the flywheel that I have encountered. One covers the entire housing, and the other is just a strip of plastic over the top of the flywheel housing. Which ever version you are dealing with, they have in common that they provide the hub for one end of the flywheel shaft (the other end is the mechanism itself). Get an X-acto knife with a # 11 blade and CAREFULLY work and pry the cover off. It's glued on but there isn't much glue and if you're patient and work slowly the cover will eventually pop off. That's the scary part - thirty year old plastic does get brittle. It won't just break, it might shatter. Visions of shattering talkers are always with you when you start removing a cover, so work slowly and you won't have any trouble.

Once the cover is off, remove the flywheel and examine it. Did the counter weights fall off (oops!)? That's a problem. The counter weights are made of some soft metal and the prongs can be carefully squeezed with a pair of needle nosed pliers (another scary part) to give a good grip on the little pins that they pivot on. Not too tightly, the weights must swivel freely and cleanly. If the pins are gone you have a lot more work to do. If you have some junk talkers, you can salvage a part from one of them. If not you'll need to get some music wire that matches the diameter of the pivot holes in the counter weights. The local hobby shop should have a good match. When you are there also get some cynoacrylate glue (gap filling, like Zap brand in the green bottle) and a drill bit just a hair smaller than the music wire. Use the drill to make holes in the place of the old pivot pins of the hub, then cut two pieces of the music wire to the proper length. Using the CA glue, glue them into the flywheel shaft. CA glues fingers better than anything else so be careful and wear your safety glasses!!!! Remount the counterweights and check that weights swing easily and pivot cleanly on the old or new pins.

The next repair to the flywheel requires replacing the felt pads that rub against the flywheel housing. You know, those little white guys that may or may not still be on those counterweights. Visit your local fabric store and buy some cotton or wool felt. Avoid synthetics, as they are too slippery for our purpose ( remember "ALVIN" ). When in doubt try touching a scrap piece of felt to a match flame. If it melted, it's synthetic. Look for felt about three millimeters thick, then cut two pads to replace the old pads which you have already scraped off(you didn't?get busy!). Use alcohol to remove any

remnants of old glue. Glue the pads on with clear silicon rubber. Use it sparingly. Silicone rubber works well because it won't seep into the felt, and it sticks to just about anything. Set the assembly aside to let the silicon glue dry overnight.

Now comes the fun part! Put the flywheel back in the talking mechanism, and put the cover back on. Depending on what style cover you have you may not need to glue it. Avoid gluing the cover if at all possible: If you ever have to take it apart again you'll be glad you didn't glue it. Assemble the talker and give the string a pull - VIOLA ! Talks at the right speed ! It doesn't? sometimes it takes a couple of pulls of the string to break in' new flywheel pads.

So you've done all this, and your talker talks at the right speed. But his voice is really weak. Can anything more be done? Read on.

## Worn Stylus

Didn't think of this one did you? Well neither did I, until one late night while watching a old rerun of the M\*A\*S\*H TV series. In that episode, a phonograph was left running all night, ruining a characters last phonograph needle. What!?! You mean a plastic record can wear out a steel needle? Impossible! Sceptically, I found a magnifying glass and gave two talker needles the evil eye. Wow! The talker with the strong voice had a bright, shinny, and sharp needle (stylus). The weak talker had a nasty needle - rusted, and the tip looked like the blunt end of a baseball bat. could it be this easy? But where do you find a replacement for a thirty year old needle?

A local record store I knew of sold old 78 records and vintage phonographs. You need phonograph needles to play those 78's on those old machines right? The needle on a talker looks like one of those needles. It was worth a try.

The next day I picked out a package of needles (.99 cents per dozen) and examined one under the magnifying glass. It was identical to the original Talkers needle, only a bit too long. A dremel moto tool with a cut off wheel shortened it to a perfect replacement length. I also chucked the needle into the moto and burnished the freshly cut end to remove the sharp edges.

The old needle was quickly pressed out, and the new one pressed in. That's right, it's just a press fit. Remove the tone arm pivot spring (if it's still there), and pull the brass tone arm pivot off. Pull it straight so you don't ruin the pin or the hole it fits in. Press the sharp end of the old needle against a piece of hard plastic (the kitchen counter?) and with your fingers press against the plastic part of the tone arm on the opposite end of the needle. The needle will pop right out. The new needle is a perfect fit, and presses right in.

Put the whole works back together. If your tone arm spring is missing a good replacement can be made from one of those sewing needle treaders that fabric stores usually give away. The wire part that slips through the eye of a sewing needle is a perfect replacement for the original wire. A nice finishing touch is to put a dab of Vaseline on that dark plastic dot on the speaker that the tone arm touches. Now pull the

string! EUREKA!

These repair ideas are by no means definitive, but by using these techniques I have restored some talkers that I thought were history. Even one that looked like it had been stomped on by Godzilla, before I started. -- [DMcKee63@aol.com](mailto:DMcKee63@aol.com)

## Miscellaneous

Got a talker than only says one thing? You pull the string out at different lengths to make him say the different things! -- [Doug](#)

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