

Screening & Projection Checklist



Based on guidelines originally compiled by Dr. Leo Enticknap.

Examine all elements thoroughly before projection. Do not attempt to project under any circumstances if:

- **There is significant shrinkage**
If you don't have an actual shrinkage gauge, make one yourself. Take a piece of new leader in each format that's at least 20 frames long, and tape them to your inspection table. Check for shrinkage by lining up a segment of the film being inspected with the first sprocket hole—if by the end of the segment the sprocket holes no longer line up, there's discernible shrinkage and projecting the element will be risky. Be sure to check the beginning, middle, *and* end of each reel for shrinkage, as uneven wind or old leader at the head or tail can promote shrinkage in discrete parts of the reel.
- **The element appears brittle or warped**
Warping will be evident from the most cursory visual inspection—the film will be visibly ruffled, curl uncontrollably when unwound, or will not lie flat on the reel when wound. Brittleness is often signaled by bits of cracked film in the box or can itself, crow's feet around the sprocket holes or splits across the frame. Check for brittleness by carefully bending the tip of the leader; brittle film will snap or crack where supple film will crease, but stay intact.
- **There is any perforation damage**
Perforation damage may appear as individually torn or a string of reamed-out sprocket holes, or as crow's feet (cracks at the corners of the holes). Gently holding the edges of the film while wearing cotton gloves and slowly reeling through it will help you catch 90% of perf damage.
- **There is significant edge damage**
Mis-fed auto-loading projectors, dinged or bent reels, or bad handling can all damage edges of film, especially at the head or around splices. Look out for lengthwise creases along the perfs, rough or chewed-up edges, nicks and cracks. These can all contribute to jams in equipment or be the starting point for extensive further damage during projection. Replace all leaders that show edge damage.
- **There is a magnetic stripe which is peeling off and/or shedding oxide**
This is also detectable during a visual inspection, and may also be signaled by rusty flakes in the box. Sometimes mag striped film will be sticky and adhere to itself when you attempt to unwind it. When you encounter this, *stop* unwinding and advise the owner of the film to

seek preservation assistance from a qualified lab. And *do not attempt* to project mag striped film in a projector without a proper sound head!

Make sure all film is properly prepared for projection.

- **Don't skimp on leader!**
Enough leader should be added to the head of the reel to ensure that no actual picture footage is involved in the threading up process, you have adequate leader on the take-up reel before starting, and the projector will ramp up to full speed before any picture footage enters the mechanism. This means about 5 feet for regular and Super 8mm, 8-10 feet for 16mm. Leader's cheap, and it can save your film.
- **Check it once, check it twice: make sure every splice is nice!**
Examine and, where necessary, repair all splices. This is especially important with amateur films, which *frequently* include amateur splices! Test cement splices by gently twisting the film at the join; if there are signs of separation, unpick it carefully, remove the cement residue, and replace it with a clean tape splice. All tape splices should be checked to make sure the perfs are punched out completely and no bits of tape are stuck to the film. Check around the splices to make sure adhesive residue is not "leaking" from the edges onto adjacent frames.
- **Use proper reels**
If you're working with 8mm materials, *don't* project from the tiny plastic reels that come back from the lab; wind it heads-out onto a proper reel before projecting. If the film is on a spool which is bent or has sharp edges, discard and replace it. Make sure you're using the proper reel for your format, as well: Super 8 reels have larger holes at the hub, and regular 8 reels have smaller ones. This is especially important when you're using a dual-8 projector to run both formats—if your film is on the wrong kind of reel, you may forget to switch your projector to the proper setting, and you can easily destroy the film that way (although if you've done everything else right, you'll have a long piece of leader on the head and you'll only destroy that!). Also, make sure you are using the right size reel. *Don't* try to take up a 460-foot piece of film onto a 400ft reel—when in doubt, use the bigger reel.
- **Use the gentlest equipment available**
Avoid using automatic-threading projectors if at all possible. Even a minor fault in an auto-threading mechanism can cause severe film damage (they're not known as 'autos shredders' for nothing!). If you can spare a separate set of rewinds and reels, use them to rewind elements after projection, rather than rewinding on the projector itself. Rewinding on the projector takes longer, results in a less even wind, puts additional wear on the motor, and runs an additional risk of stretching a belt to breaking point—all good reasons to rewind by hand.

Make sure that your projector is in perfect mechanical condition before you project. That means you or the technician who services your equipment should do *all* of the following, as applicable:

- **Replace all belts before use and check take-up tension**
If a drive belt snaps during operation this can cause serious film damage. Pay particular attention to the tension on the belt or chain which drives the take-up spool, and of any gears

or clutches controlling the take-up/rewind mechanism. The take-up should be adjusted so that it pulls firmly but not too hard, and consistently with both an empty spool and under the full weight of its total film capacity.

- **Clean and lubricate (and then clean again)**

Remove dust, grime, and lint from all parts of the machine, inside and out, paying special attention to the film path. Use canned air for hard-to-reach places and lint-free cloths on the exterior. If you use rubbing alcohol or any other kind of chemical during cleaning, make sure to allow plenty of time before using the projector to eliminate the possibility that residue will get on the film. If the mechanism is one which requires lubrication, oil all the lubrication points before use, but make sure that all excess oil has been wiped away and will not go anywhere near the film.

- **Check shutter timing and all moving parts**

In most small gauge projectors shutter timing is not an issue, because the shutter is linked directly to the motor by the same shaft that also drives the pull-down claw by means of a gear. But if this is not the case, check the shutter timing and adjust if necessary. Check the condition of all sprockets (use a loupe or magnifying glass if necessary) for worn or hooked teeth. Check the alignment (and, where applicable, pressure) of all gate components and the pull-down claw. Check that all fans are working. Finally, 'soak test' the projector by running it continuously for 24 hours with a loop of acetate spacing. If any scratching, heat damage or perforation damage is observed at the end of that time, something is wrong. 24 hours should be long enough to 'shake down' the new belts so they are unlikely to stretch any further, so retensioning may be necessary at the end of the soak test.

- **For sound projectors only**

If the projector has a mag head, clean and degauss it. If the projector has a facility to record to a magnetic stripe, try and find some way of disabling it (e.g. cutting the wire to the appropriate switch). If you're fumbling around in the dark trying to operate an unfamiliar machine, you don't want to run the risk of accidentally wiping someone's soundtrack. Remember, unlike tape cassettes, reels of film do not have a 'write protect' device.

- **Be prepared for breakdowns and mishaps**

Make sure you have a set of spare belts, fuses, a spare lamp and, where applicable, exciter bulb to hand on the day. This isn't really a film handling safety point (apart from the belts, which if you start with a new set really shouldn't go out on you), but if any of these things fail and you have no spare, that's the end of your show.

Be honest about the risks of projection.

Even when you're being paranoically careful, accidents can happen. Before projecting anyone else's film, make sure the film's owner understands that the purpose of your careful inspection is to minimize—not eliminate—the possibility of something going wrong. Communicate clearly to them that there are risks involved in running film through a projector at any speed, which they should consider right along with the potential rewards of getting to see their old family films again. It's never a bad idea to have the owners sign a waiver against the risk of accidental damage.