APPLYING LINES WITH GOLD LEAF
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There are several ways of laying gold lines, depending on the type of decoration and the surface to which it is applied. On an enamelled base, it is done by tracing a line of ‘size’ (a special oil or varnish) over an undercoat (or ‘ground’) of white or yellow paint. The gold leaf is then laid on the tacky size to which it adheres. As mentioned further on, the size sometimes incorporates yellow pigment, in which case no paint undercoat is needed.

OIL GILDING (MORDANT GILDING)
Oil size traditionally contains yellow ochre or chrome yellow pigment. Called ‘24 hour size’, it is applied the evening before the day you wish to lay gold. It has a ‘Tack’ or ‘Open’ period of up to 48 hours.
Other types of Oil size are generally referred to as 6,8,12, or 16 hour, nominal. Usually they do not contain pigment and therefore need an undercoat. As paint is unaffected by size, any type of paint can be used. My first choice would be a specialist sign writer’s lettering enamel (e.g. Humbrol’s). It is most important that the paint ‘brushes out’ well, especially if applied freehand, using a ‘Sword Liner’.
In all cases, a working assumption is that the ‘Tack’ period (during which gold leaf can be applied) will begin approximately at half the number of nominal hours; so, in practice, the size is designated as 3,4,6 and 8. One advantage of slower Oil sizes is that you have an extended ‘Tack’ time. Of course, the disadvantage is more risk from dust. For broad ‘smears’, (a very thin and wide coat of size), ‘Tack’ time can last up to double the designated figure, i.e. 12,16,24, or 32 hours.
However, for fine lines as on the tank and D enclosures, assume only a fraction of this Tack time.

SYNTHETIC VARNISH (SIZE)
Usually called ‘Japan Gold Size’ or ‘Quick Drying Size’, this is thinner and easier to brush than Oil size but does run more easily. It is ready to receive gold leaf in one to two hours. Typical Tack time is thirty minutes to one hour. With both Oil or Varnish sizes, cold ambient temperature and increased humidity lengthen drying and work time. Nevertheless, NEVER be tempted to speed things up with a fan assisted heater . . . DUST is the enemy.
The drawback of Japan size is that the gold will be duller and the size is inclined to be brittle and fragile compared to Oil size. However, any of the above can be used for our purpose. Once, when pushed to it, I used yellow Humbrol Enamel instead of size; the line is still in situ.
Do not use ‘Wondersize’ or other types of Latex based sizes as these are not suitable for this type of work; nor ‘Artist’s’, ‘Decorator’s’ or ‘Glue’ sizes; these are for different applications. Never add anything to any of the sizes mentioned unless you are a professional gilder, in which case why read this? Never wear a woollen sweater - wool fibres will stick to the size; wear overalls instead.

HOW TO TELL WHEN THE TACK IS RIGHT
Never touch it with your fingers; that just puts wrinkles in it. If the size is too soft when you apply the gold leaf, then the result will at best be dull; at worst be crazed or torn. When you have applied the lines of size on your tank, make a couple of short lines of the same width on bits of scrap metal as test pieces. Using a small soft, dry paint brush, you can test for Tack on these. Remember, if the hair on your hand or the bristle of the brush leave marks, the size is much too
soft; however if no pull is felt, it is too dry. This is where the advantage of Oil size comes in, as you are not likely to find yourself ‘dried out’ before you have a chance to realise it. Retain your test pieces in the same area as your tank or rear cowl, they’ll be useful later on.

PAINTING THE LINES
First of all, degrease - or rather ‘dewax’ - the surface to be lined. Make sure beforehand that the solvent used does not affect the enamel finish, especially in the case of the Series D enclosures. Possibly the hardest part of the job is to visualise the line in the first place. So, lay on your line with tape of the correct width and adjust it until it looks the part. In the case of the petrol tank, use a narrow tape, capable of following the sharp radius at the front end. Then, place masking tapes on either side, butted to either side of your tape and remove the original tape. The tape used should be of the kind preferred in professional repair/paint shops, which does not allow seepage of the paint or size under its edges.

a) If you intended to work within tapes, then you are ready to start. In this case, any reasonably dimensioned soft artist’s brush or designer’s letter brush will prove adequate to apply the ‘ground’ (undercoat), and when this is fully dried, the coat of size. Remove the masking tapes before applying gold leaf.
b) If you prefer to apply the lines free-hand then take Ò000Ó grade wire wool or a nylon ‘Scotch Bright’ pan scouring pad and gently matt the gloss enamel between the tapes. Don't worry about getting right up to the tapes, it isn’t necessary. Remove the masking tapes and you now have a visible guide line to follow.

BRUSHES
The first choice of brush to use is a ‘Sword Liner’, probably a Number 3 for the tank lines and a Number 4 for the Series D enclosures. If a Sword Liner is not available, then try a lining ‘Fitch’ or a ‘Jet Stroke’ letter brush, both of which are quite common. The width of the brush should be approximately the same as that of the desired line: 1/4 inch for the tank, 5/16 for the Series D enclosure. A ‘Sword Liner’ (also called ‘Dagger’s Pinstriper) typically has very fine, soft grey bristles, 2 or 3 inches long with a natural taper. They come with stubs or regular handles.

A ‘Fitch’ has shorter, coarser, black bristles which are cut at an angle. They always have full length, flat section handles, and are commonly used by high class interior decorators. A ‘Jet Stroke’ letter brush has softer and longer hairs than Fitches and, although shorter than Swords, flows well. These brushes should be available from really good art material or professional signwriters suppliers, also likely to stock size and gold leaf. Good ‘model’ shops may also be of help.

Loading the brush well is important and it is best to make several sweeps with the loaded brush on a practice surface before turning to the job. This gets your hand used to the job and will draw the bristles into shape. Two or three dips should be enough. If the brush has been stored badly and hairs stick out in all directions, retrain it into shape, using hot water and then hang it up to dry vertically (bristles down) without touching with fingers or cloth.

The stub handle on a Sword is held between the thumb and first two fingers below the palm (not like holding a pen). The brush is thus offered to the work surface at a very shallow angle, so that almost the whole length of the bristles is in contact. The third finger can be used to run along the work and steady the hand.
Tank lines should be done in one steady pass, (this might not be possible using a Fitch or Jet Stroke). Remember, fluency comes with confidence . . . . which comes with practice!
You will recall that if you are using traditional Oil size containing yellow pigment, no white or yellow undercoat is necessary.

**GOLD LEAF**

It comes in various shades of colour and grades. For our purpose, this would be ‘Regular’ shade, 22 or 23.1/4 carat. Though more expensive, ‘Superior’ or ‘Double Weight’ (regular shade) gold is worth using as it is thicker and less prone to breaking up. These days, a sheet of ‘Single Weight’ is normally 80 x 80 mm. and ‘Double Weight’ is 85 x 85 mm. Single Weight is about 1/300,000 of an inch thick (near enough 1/1000 mm.), and two thousand leaves weigh a Troy ounce (31 grams). Unless you have someone to lend you the tools and give you some lessons don’t use loose leaf because it is extremely difficult to manipulate. ‘Transfer Leaf’ (leaf attached to backing paper) is usually available from good art materials shops, in the form of a ‘book’ of leaves, but you may have to give your supplier a day’s notice if he has to convert some from loose leaf.

**LAYING THE GOLD LEAF**

Take out from the book as many leaves as required to do the job. Dust a pair of sharp scissors with talcum powder and use them to cut the gold leaf and its backing paper into strips just slightly wider than the line’s width. At the end of each gold strip there should be enough extra backing paper to pick up the piece without touching the gold; use a finger and thumb at each end. Rest your knuckles on the tank to steady your hand and gently lower the edge of the slip adjacent to the start of the line; hold this down. Then, very gently, lower the end opposite and let go with that hand. Keep your thumb on the first end, and with the finger tips of your free hand, smooth gently over the back of the paper, working away from your thumb. Do not smooth in both directions, and do not press so hard as to stretch the backing sheet, or the gold will fracture. Smooth the piece until you can observe that the gold has freed itself from the paper. Lift the backing strip away. If the size was too soft (not dry enough) it will ooze sideways and a jagged gold line will result. If the size was too hard (too dry), the leaf will not adhere so readily, if at all. Add the next strip, overlapping it onto the first piece by a 1/4 inch and proceed as before. Continue like this until the line is finished and do not touch the gold with your fingers. When the whole line is laid, use clean cotton wool to work along its length, tamping it down, but do not rub it as this will scratch or fracture it; just gently press down. Smooth ragged edges by wiping with a damp chamois leather or lint free cloth. Wipe in the direction opposite to which you laid the gold, and on the tank, not the line itself.

Some craftsmen do not trouble to cut the leaf/backing paper into strips, and simply press one sheet on the tacky line, then lift the backing paper whereupon the leaf should tear away cleanly from the paper. The ‘joint’ should be totally invisible, thanks to the thinness of the leaf.

If, as advised previously, you kept your test pieces, you should now gild one of them, this will give you a test piece which you can ‘poke’ at later to be certain that the job is fully dry before you apply a sealing varnish coat. It is disastrous to seal Gold Size that is not fully dry. Before sealing in, use a soft, round artist’s mop - clean - or a similar brush, and, working in the direction you laid the leaf, go along the gold line in small, firm circular motions. This will remove the pieces of unwanted leaf and impart a bit of polish to the gold. When applying sealing-in
varnish, work in the opposite way; this saves you from making a peak out of loose flap of gold leaf that you missed. The coat of varnish should be slightly wider (about 1/16 in.) than the gold line to ensure its edges are covered. The varnish should be impervious to petrol; polyurethane clear varnish is suitable. Finally when the varnish is absolutely dry, give the whole surface a good wax finish. Despite what you may have heard or read, do not attempt at any stage to burnish the gold; this cannot normally be done on Oil Gilding. Rather, it belongs to the province of Water Gilding - Now, that is truly obscure!

As might be expected, there is no complete agreement amongst artists and craftsmen on the ‘best method’ to apply gold lines. Opinions vary on techniques, materials, and perhaps above all on the type of brush most suitable; one artist prefers a short ‘Sword Liner’ or a near equivalent, whilst another advocates a ‘Whip Liner’ with 3.1/4 in. long hair, which holds enough paint to do each tank line in one stroke. All agree that there is no substitute for experience. Indeed Andy has shown that the task is not an easy one. It requires care, patience, and perseverance; but it is not beyond the skill of a careful amateur and the challenge can be very rewarding. A little practice on an old tank before tackling the real job would be well worth while, particularly to gain experience regarding the critical moment when the gold size is sufficiently tacky to accept the gold leaf.

If the results achieved do not come up to expectations, wipe off the gold leaf with the damp chamois leather and start afresh. However, perfection is only an ideal to aim for, and truly perfect gold lines are rare - if indeed they exist in this world. What matters is the general appearance, rather than the absence of minor blemishes best regarded as evidence of human frailty. The difficulties to be overcome have inevitably led to short - (and cheaper) cuts. ‘Gold’ paint, almost invariably made of bronze powder (usually aluminium bronze) can, of course, be used. It is no easier to apply than the line of size used with gold leaf, and soon tarnishes. Even when newly applied, it does not - cannot - look like the real thing.

If, in desperation, you have the job professionally done, you must insist clearly and unequivocally on genuine GOLD LEAF. Do not be put off by glib, evasive answers or assurances; there is no real substitute.