"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER

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Alan's "Annotations"

So another AGM, just after our second show at Dagenham, which as I write these words has not happened yet, so I hope that both go well.

As I said in my previous piece, I feel that Hornchurch club is being short changed with its present secretary; the Dagenham show is a case in point. Here I am on Sunday night typing this for Sticky Fingers and no passes have yet been sent to the clubs. The Barking Railway people let us down, as did one of the traders. Not so many clubs will be there either. I feel that this is due to the secretary not devoting enough time to the show.

Therefore I hope someone out there does take the challenge and maybe points the club to better times. It is a good club and deserves many more years.

There's not much more to add just how much I've enjoyed my time as secretary and best of luck to him who follows on.

May Hannants offer you a 75% discount.

Alan

Peter's "Prattlings"

Sticky Fingers Archives

For those of you who have joined the IT revolution and own or have access to a PC, I can offer to any club members a copy of most, if not all of the back issues of Sticky Fingers ever produced on a CD. What's it cost? 50p to you guv'nor! That covers my costs of buying the blank CDs, of course if you want to pay me more or give me one of your blank CDs! There will also be room on the CD to put on many other documents of things that have been spotted on the Internet and mostly printed out and brought along to the club. Most documents are in Microsoft Word format so you'll need something that will open this type of file. Other than that just drop me a line or let me know at the club whether you are interested.

Hannants Lowestoft Sale 24th May

As a final reminder: -

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"Following the cancellation of the Mildenhall Air Fete, due to have been held on Saturday May 24, we shall be holding a special Open Day at our Lowestoft Warehouse on that date.

We will be giving a 10% discount on ALL purchases on the day plus additional special offers, clearance lines etc.
Book the date and bring the family for a day at the seaside or on the Broads. Watch this space for further details.
Please note that this is at our Lowestoft warehouse and does not apply to our London shop which will be open as usual."

Please note I have no financial interest in Hannants, apart from giving them money of course! Just thought you might be interested. I am hoping to go so if anyone needs anything but can't make it let me know and I'll see what I can do.

Peter

Ricky's "Ramblings"

What makes a good aircraft subject to model? Some modellers would say that it is the latest model from the manufacturers even if it is some obscure prototype or early machine. Now and again this creates a problem in that this results in a plethora of kits from different manufacturers all representing the same aircraft. Sometimes these kits represent the prototypes of aircraft that actually entered service, but since the market has been flooded with these kits already, naturally the manufacturers do not want to bring out more of the same.

You may notice that sometimes kits come out with minor adjustments to earlier kits of the same aircraft from the same manufacturer. Sometimes the only difference is in the decals supplied but with the same old kit.

When I was a lad there weren't that many manufacturers of kits around, and these concentrated on the more well known aircraft. Profit ruled ok!!

Now you only have to look in the modelling magazines to see the lists of manufacturers and their wares. That's also without the decal manufacturers, etched brass, add-on parts, resin kits. For a hobby that sometimes appears in decline never has the future looked rosier.

So what makes a good aircraft subject to model, well how long is a piece of string? Buy a kit and with all the accessories available you can make it into any version you wish. You lucky people!!!!

Attached to this month's magazine is a copy of our club accounts for you to peruse. Financially we are in a very healthy state though I do think we could use some of that for our members. By this I mean making club nights a bit more interesting by having the odd free raffle, but then that might just be me……..any thoughts.

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Numbers wise we seem to be able to keep jogging along and club night attendance is very good.

Hot Tips Hot Tips Hot Tips

1. Before cutting and using etched brass "anneal" it first by passing it through a flame holding it in a pair of tweezers or pliers. This makes it easier to fold, bend or curve it.
2. It's stated that it's better to apply decals to a glossy surface rather than a matt one because they adhere better. This is why some modellers brush gloss varnish onto the area before applying the decal. A true anorak will tell you that the gloss varnish will darken some base colours, wow!! A different method is to make up a mix in equal parts of distilled water, good quality white glue and your decal solvent. This is then brushed onto the area where the decal is going then applying the decal in the usual manner. More of the solvent can now be applied if you want to. Excess solution is then removed to prevent the paint staining. When the decal is completely dry there should be no silvering as the white glue fills the low spots in the paint.
3. Obtain a sheet of fine "wet or dry" paper and cut a few small rectangles 1" by 2". Scribe a line on the reverse of the rectangle in the middle of the short dimension. Smear the reversed side with CA glue then immediately fold the rectangle over tightly ensuring that the scribed line becomes a sharp crease. When the glue has set you then have a very thin, stiff, sharp edged sanding pad hat can be used, wet or dry, to clean up edges of mouldings or to cut small angles in plastic. The best part is that they last a long time and are cheap and easy to make.

Ya Gotta Laugh

David Beckham decides to go horse riding. Although he has had no previous experience he skillfully mounts the horse and appears in complete command of the situation as the horse gallops along at a steady pace; Victoria admiringly watching her husband.
After a short time David becomes a little casual and he begins to lose his grip in the saddle and slipping, he panics and grabs the horse around the neck shouting for it to stop. Victoria starts to scream and shout for someone to help her husband, as David has by this time slipped completely out of the saddle and is only saved from hitting the ground by the fact that he still has a grip on the horses neck. David decides that his best chance is to leap away from the horse, but his foot has become entangled in one of the stirrups and he falls heavily, still trapped on the horse. As the horse gallops along David's head is banging on the ground and he begins to slip into unconsciousness. Victoria is now frantic and screams and screams for help! Hearing her screams, the Tesco's Security Guard comes out of the store and unplugs the horse.

Ya Gotta Laugh (Part 2)

One day in the future, Osama bin Laden has a heart attack and dies. He goes to hell, where the devil is waiting for him. "I don't know what to do here," says the devil. "You are on my list, but I have no room for you.
You definitely have to stay here, so I'll tell you what I'm going to-do. I've got three folks here who weren't quite as bad as you. I'll let one of them go, but you have to take their place. I'll even let YOU decide who leaves."

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Osama thought that sounded pretty good, so he agreed. The devil opened the first room: in it were Richard Nixon and a large pool of water. He kept diving in and surfacing empty handed over and over and over. Such was his fate in hell. "No," bin Laden said. "I don't think so. I'm not a good swimmer and don't think I could do that all day long."
The devil led him to the next room: in it was Tony Blair with sledgehammer and a room full of rocks. All he did was swing that hammer, time after time after time. "No, I've got this problem with my shoulder. I would be in constant agony if all I could do was break rocks all day," said Osama
The devil opened a third door: In it, Osama saw Bill Clinton, lying on the floor with his arms staked over his head, and his legs staked in spread-eagle pose. Bent over him was Monica Lewinsky, doing what she does best.
Osama bin Laden looked at this in disbelief for a while and finally said, Yeah, I can handle this.
"The devil smiled and said, "OK, Monica, you're free to go."

Ricky

Bob Sinfield's "Building Tips"

Working with Resin and White Metal

Precautions

It is important that care and common-sense are used when handling resin, white metal, paint and adhesives. Care should be taken to avoid inhaling the dust particles from resin, white metal and paint. Always work in a clean dust free area and clean up after dusty tasks. Where possible sand resin and white metal wet and wash hands afterwards. AVOID SMOKING when resin dust is in the air. In ideal circumstance an extraction system should be used for all "dusty" processes.

My bench looks like a tip half way through a building session tools every where, but I always clean after a sanding session where possible wear a mask if you can't sand wet.

Resin Kits

Resin kits are made from a Polyester Resin and it is a very forgiving medium as it can be cleaned with Cellulose and Xylene. Xylene can be found in Badgers air brush cleaner and will clean Enamel paints and Acrylic paints from resin with no damage, but don't soak the parts wash only, keep skin contact to a minimum.

Most resin kit parts are sturdy but the thin and small parts are very delicate but if any parts do break super glue comes to the rescue. Resin kits are very well detailed; anyone who saw my Achilles with the crew would have seen the amount of detail that can be moulded into a 32nd scale figure.

The resin can be filed, drilled, and sanded, but like plastic care should be taken when drilling or using sanding machines, as it will burn, using a drill at to fast a speed will melt and burn the resin. Most resin kits I have made show the waste and/or remove parts of the casting so do read the

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instruction with care, resin kits are expensive, but are worth it (my Achilles crew cost £7.50 each Total of £37.50).

Glues

Many of you will have your own views on glues, but I will give you the reasons why I use the glues I do.

Aliphatic Resin woodworking glue, (White PVA substitute)

Fast grab speed, but gives time for accurate placement of parts, and is stronger than PVA. Dries clear.

Rocket Max, I have tried others but found this to be the strongest, it is thick Cyano (aka superglue) and gives a couple of seconds for accurate part placement and is gap filling.

Rocket Rapid. As above but thinner and bonds very fast not gap filling but can be use with Rocket Powder to fill gaps

5 min. Epoxy Resin a two part glue Read instruction for use (I use very little of this as I find it a week in small amounts).

Tools

Most of you will have tools, but for those who are new to modelling, very few tools are needed, the following are useful;

- Needle files,
- Scalpel or modelling knife, round and flat blades
- 1:1200 wet and dry paper (I use Astromodel Sanding Films as these can be used wet or dry and last longer).
- Flexi-file,
- A pair of small sharp scissors,
- A pair of tweezers,
- Cocktail sticks
- A selection of small paintbrushes
- Razor Saw,
- Cutting mat,
- Clamps, (I use clothes pegs, wooden and plastic these can be shaped to suit the application as required).

White Metal Kits

This medium is a soft yet strong metal and can be used for any type of model application; I have built and painted many Napoleonic Figurines before going to resin.

White metal has a low melting point and so is easy to cast. When I worked for British railways one job I did was to fit white metal bearings and some needed to be scraped to make them fit so I collected the shavings and used it to make my war game figures using a friends Prince August moulds. White metal parts in multi media aircraft kits are normally found to be the undercarriage.

Glues

As for resin kits except for the wood glue, it will stick but is not very strong on metal. When gluing metal to metal Rocket Blaster Cyano Accelerator can be used, it makes for a strong joint.

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For the brave there is one other way white metal can be joined and that is by soldering it together, I use this method a lot and have taught others to do the same (ask Lee Lacey. He has borrowed my equipment to build a model), the problem with this method is there is a good chance the part can be melted so it becomes an unrecognisable blob of metal, I use a temperature control soldering iron (any one interested can ask me about this method.)

Tools

As for resin, but use old files as white metal will clog them, and become very hard to clean.

Paints

I won't go into paints as all of you have your favourite, I love acrylic.

But I must add that if you use acrylics, an undercoat of enamel paint (white, grey or black) should be used, I have found Johnson's Kleer also is good (a tip given to me by Lee) and it is good at clearing scratches on canopies.

Fillers

Milliput: - As I am sure most if not all of you know this 2 part putty

Green stuff: - also a 2 part putty, good on metal and where strength is also required (can obtain this from Games Workshop.)

But how many of you use white plasticine, yep that putty we all played with as kids, its good for fine filling, there is no waist, takes Enamel and Acrylic paints. Do not use coloured plasticine as this will stain resin and can bleed through some paints.

Tips

If any resin parts are miss shaped dropping them into boiling water will straighten them out, I have tried this on a 48th scale propeller it took around a minute and all 4 blades are now correct. (Thanks for the idea Ted)

For a dust extractor, use a small car vac (12v), or a mains vac of similar type, make a hole in the bottom of a box to fit the vac, place the vac through the hole, there it is a dust extractor box with filter. If you want to use it as a paint spray booth make sure you get a vac where you can replace the filters as the paint dust will clog up the filter. (It will cost about £20 instead of £200 or more)

To remove parts from the sprue, use cutters not a knife.

Where using epoxy resin, remove excess, half way through curing with a knife, do not wipe it as this will course a problem when sanding, and if you leave it to cure it may be a bit hard to remove.

If any one is interested in making their own moulds for resin parts, go to www.hobby.uk.com, on the web, or phone Hobby's on 020 8761 4244. Address: - Knight's Hill Square, London, SE27 0HH, they sell all the silicon rubber and moulding equipment. I have ordered the above catalogue and am awaiting delivery.

Happy modelling all

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Bob

Wrighty's "References"

Modelling late mark Focke Wulf 190 series engines

Modelling master class, that is the term they use in SAM and SAMI for projects such as this, but making your own engines for 1/48th scale fighters can be very rewarding in a number of ways. Before you turn over to the next article, let me say that these projects do not involve any resin, white metal, superglue or ant type of wire, it can all be done with a few scraps of plastic card and some sprue, plus a few oddments in most modellers spares box. It will cost nothing, it will bring extra modelling skill and at the end of the day an interesting model that has that bit extra to look at, plus you will have a little knowledge of how an aero engine is squeezed into that small space in the nose.

There are 3 levels of displaying an engine: -

1. The one sided display, this is where a side panel is removed, showing the side (normally port) open, this is easiest because it involves less cutting of the fuselage parts and installing the engine can be easier because using the closed side for added fixings and hiding other bits etc, also only one side of the engine will need detailing.

2. The next option is the side and top, mainly as option 1, but with the top nose panel also open, this gives a better view of the engine top and possibly the gun bay and cannons mounted over the engine top, also some fittings behind the engine to the firewall.

3. The final option is a full both sides open and full engine and gun bay open, this is difficult because you can't add any hidden extra stiffeners or support, it has to be done as per the real thing, which entails complete accuracy (i.e. engine dead centre, exhausts in exactly the right place to come through the cowling panels at width and length). Also all pipe work has to be taken around the engine as both sides are shown, not like on the earlier 1 & 2 versions, where pipes can be pushed under or behind to go nowhere, because it doesn't show.

You may say why bother when a resin engine option is available for the Focke Wulf 190 D-9 and an article in SAMI on how to fit it etc. Yes true, but this option made in Hungary costs £20 and it's not on anybody's "stock list", I tried very hard but couldn't get it, so I decided to try myself to produce the engine.

The major item you need is a very accurate plan, the one I acquired actually containing 3 late war FW 190/152 engines (see picture). The first is the Jumo 213a as fitted to the 190 D-9, the next is the DB 603L as fitted to the TA 152-C1 and the final one is the Jumo 213F as fitted to the TA 152H1 and the FW 190D-11. In the end I did make all four of these in various options as follows: -

FW 190 D-9 as option 2 (with cowling guns and ammo boxes etc)

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FW 190 D-11 as option 2 (this version did not have cowling guns)
TA 152 H1 as option 3 (this version did not have cowling guns)
TA 152 C1 as option 3 (with cowling guns and ammo boxes etc)

The FW 190 D-9 Engine Options 1 & 2

The kit I used is the Italeri (ex Dragon, ex Trimaster) 1/48th one, but the Tamiya one should be equally suitable. (Plan numbers are for the Italeri kit).

Section 5 of the plan, cut away the side cowling around the wing root and nose cone, by easing out the panel lines and sawing away from the nose cone. Take care, as these parts have to be re-used. The section of cowling removed needs cleaning up and smoothing on the internal surface, thin out where possible especially the ends then using strips of adhesive paper from Post-it notes set the 3 internal ribs and the edge frame work as per drawing #11. If you are doing option 1, no work is necessary on the top nose panel as it will be glued in place, in option 2 it will be open, so it also needs the internal clean, longitudinal and cross stiffeners (2 of each) made from paper as per drawing #12.

Now we can commence on the engine (once you have determined the exact size). Being an inverted V engine (which means the pistons are at the bottom and the crankshaft at the top), start by making Y shaped pieces, 2 off, for the ends as per drawing #12, then the top cover in item #1, the 12 bolt holes are drilled using the tip of a knife blade. Form the sides (2) and sloping sections (2) and assemble to the Y pieces as per drawing #1, all this is in 1mm thick plastic card.

With this part of the engine cowling assembled, (do not stick top plate on yet), you now need to make the exhaust manifolds (2), do a dry run to get the engine dead centre, then replace the cowling, determine the distance between the engine block and the cowling aperture, this will be the width of the manifold block, which is fitted to just above the sloping section, the kit exhausts (part 19m) are then glued to the manifold, the cowling should slot over the exhaust and fit correctly as shown in drawing #3.

N.B. in option 1 or 2 the starboard cowling remains closed, so getting the port side correct is the main aim, the starboard side exhausts will jut be fitted as per normal.

In drawing #4 the 6 crankcase doors are made from paper and glued just above the exhaust manifold, a floor needs to be made of thin card to go into the engine as shown in drawing #5, then the cylinder banks are covered in with card, then using chamfered flat strip, the cylinder banks can be given shape, glue in place, which now gives us the basic engine structure (paint this matt black overall).

Next some of the engine fittings: -

The bearers can be cut from 1mm thick plastic card, shaped and the attachment holes drilled out, with a drill or end of a modelling knife, also drill the remaining 9 holes in each bearer, next stretch some thin sprue (about 1/64" diameter), then coat with liquid cement and stick around the upper and

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lower edges of the bearers to give a channel effect, see drawing #6. Also at this time make the engine coolant tank, either from bits in the spares box or laminate plastic card, note the radial chamfer on all edges of the tank, colour is yellow, also the engine top tank between thee bearers is made up in a similar fashion and the bands (2) are made from adhesive paper, colour is polished aluminium.

For option 1 or 2 only one engine bearer needs fully detailing, the second can be basically a blank because it will be only visible from above. Next make 4 small square blocks and position on engine entablature to receive the bearer attachment points, glue bearers in place on engine and then at rear to firewall below gun bay on fuselage, dry fit prop and shaft to make sure engine is central, then fix both tanks and make lower support into two pieces to pass behind yellow tank. Now for the thickest plastic card you have to make two bosses, drill hole in end, now cut around it to form circular boss to go on bearer attachment points, drawing #12.

Now the supercharger has to be made if you have it on the closed cowling side a blank will do, as only the top will be visible. But to construct it use an old 1/72nd wheel well cover and a wheel half glued together as per drawings #7 & #8, sand to shape, then take thin strips of stretched sprue and glue around the circular shape as per the plans, then make a centre boss and glue in place; this part is painted silver and glued to the engine, the boss to line up with the hole of the intake on the cowling. The drawing of the TA-152C shows the fitment of this item to good effect.

Next the right angle fitting that fits around the bearer and exhaust ports looking like an exhaust pipe (it's actually an oil tank) is made from an right angled sprue tree and sanded to shape, the two bands are adhesive paper (the colour is off-white, rather like a supermarket milk bottle), fir this as per drawing #10. The only other major part is the engine front gear casing, see drawing #9, a suitably shaped piece from the spares box is needed, if in difficulty for this, on one occasion I recall I used a superglue top suitably cut and modified as in drawing #9, it doesn't have to be perfect as a large part of it is hidden in the nose and radiator area, colour is aluminium.

Now look at drawing #13 and the prop assembly on page 6 of the plan, align the prop shaft through the nose cone, then drill out centre of gear casing to take the shaft, also drill engine front plate, glue gear case to engine, insert prop when dry, make and fit back stop inside engine, thus allowing the prop to turn, now you can cement the engine top plate in position. Finally a thin piece of plastic card shaped as per drawing #14 and scored with a model knife may be need to slot inside the nose cone to represent the rear of the radiator and enclose the gear casing.

If you are doing option 1, part D2 the engine/gun bay cover can now be glued in place, also the port cowling adjoined to it in the open position with a support strut as in drawing #5. All you need now is a few bits of pipe work and plug leads, you can pick these up from the option 2 instructions.

For option 2, the D2 top cover is open, involving extra work for the gun bay, which becomes visible now. Part D2 is cut in two on the join line, clean up the internal surfaces and thin the edges. Add ribbing in paper as per drawing #12. Using the FW 190 drawing make two breech blocks from scrap, hopefully you will have some cannon barrels in the spares box (or you could use stretched

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sprue? – ed), these fit into the breech and sit on the engine top tank, from the rear of the breech use bits of scrap to make the two gun butts and build up the area between and around the butts with little bits and bobs to match the layout on the drawing. The ammo feed belts are in thin plastic card and are pushed down into the fuselage, a very thin sprue pipes for cooling the guns are worked in between both guns when all other work and painting is complete. Fortunately there is a tray from the cockpit firewall that the breeches can be attached to and allowing all other components to be built up on this, see plan on page 4 and drawing #16.

The aperture beneath the engine and cylinder banks needs to be detached; the photo shows the fuel injection system and pipe work and also the cooling hoses. The injector unit (dark blue) and fuel pipes (copper) are made from sprue or rod, the plug leads are (yellow) sprue stuck on the cylinder banks as per drawing, 12 each side, the cooling hoses (black) sprue with paper bands to form connections etc. Top engine fitting and lifting eyes to be added as necessary and a couple of sprue pieces cut and stuck to the rear of the engine for generator, pumps and other fittings completes the whole engine unit, using drawings #17, #18 & #19 and main plans for guidance in assembling these parts. A final careful study of the plans will show any additional pipes or fittings that I have not covered in the above.

Detailing cockpits, radio hatches, dropping flaps etc are further options, which you are fully able to do, so I'll leave the choice to you.

Guidance note: The plan of 3 aircraft profiles and plan view are in 1/32nd scale to get sizes of parts a reduction of 75% will equal 1/48th scale (i.e. overall length 272mm x 75% = 204mm). Also always allow around 1mm undersize on length, width and height to compensate for the thickness of the fuselage moulding, this can make the difference between a good fit or fouling an edge when trying to get a part in place.

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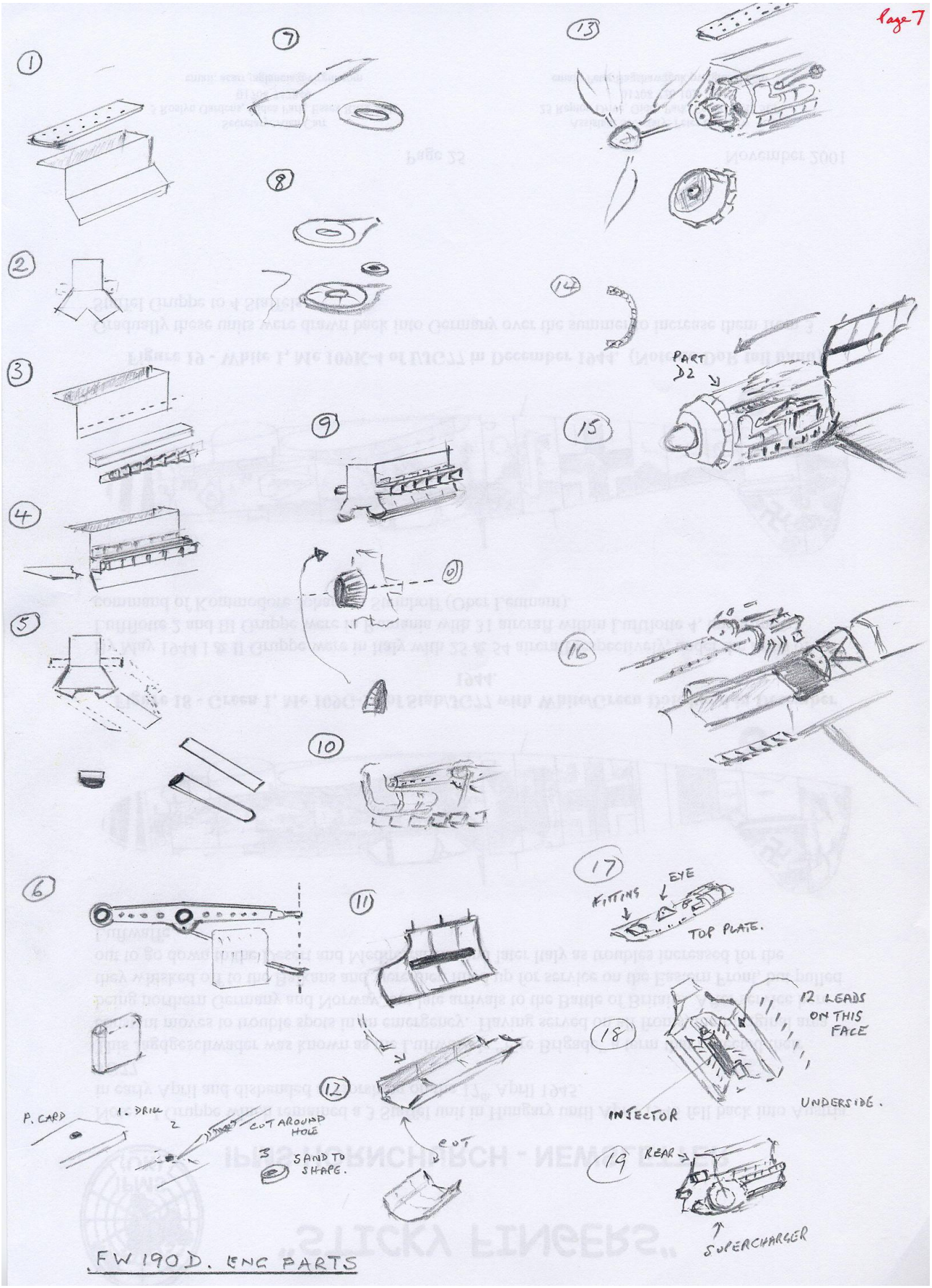
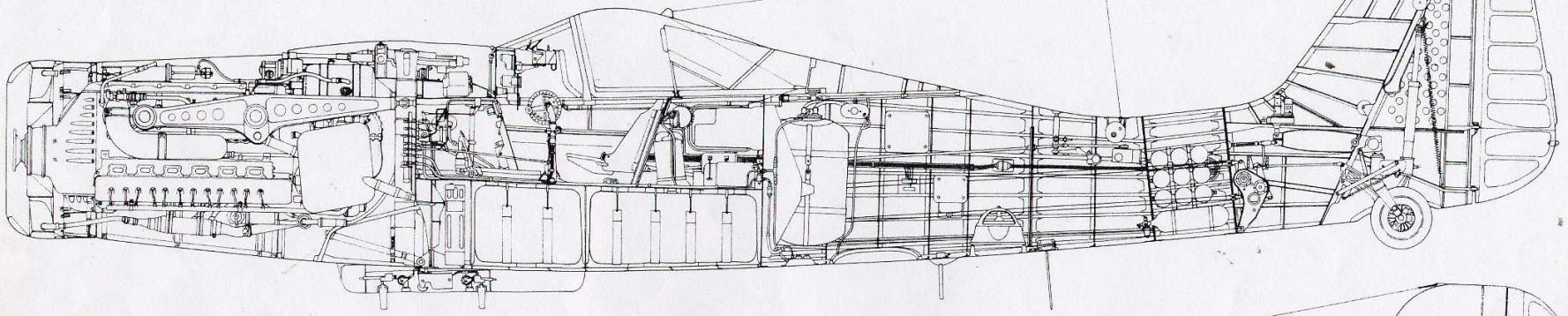
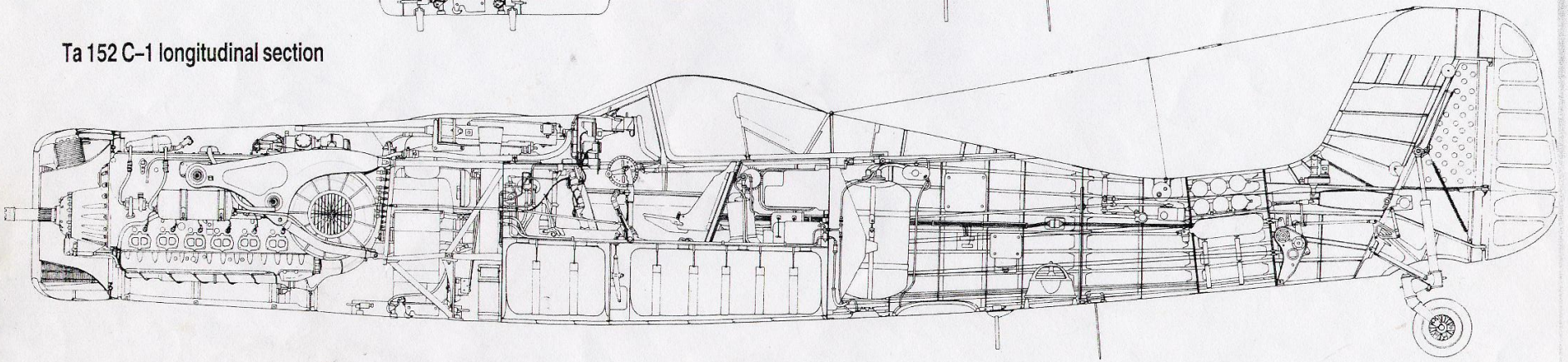


FW 190 D. ENG PARTS

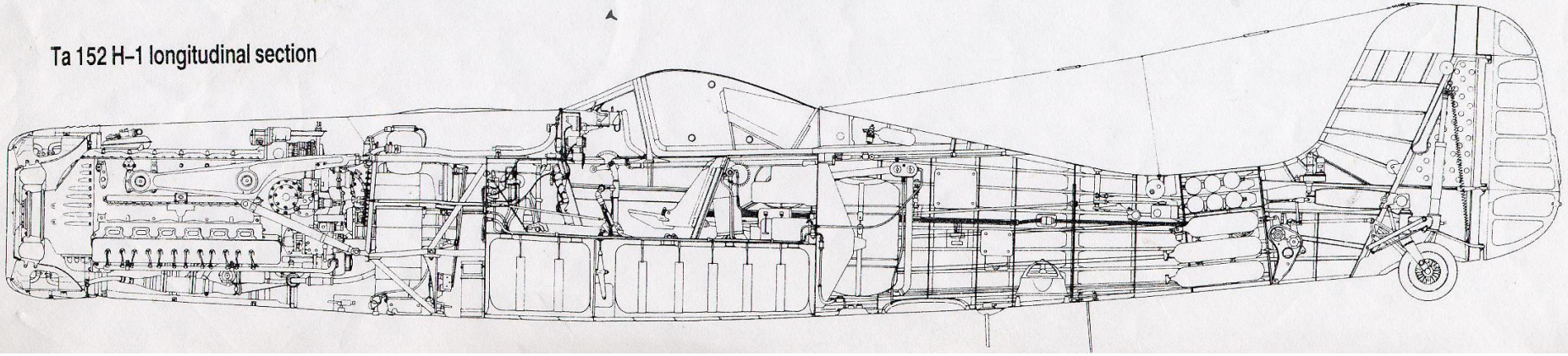
Fw 190 D–9 longitudinal section

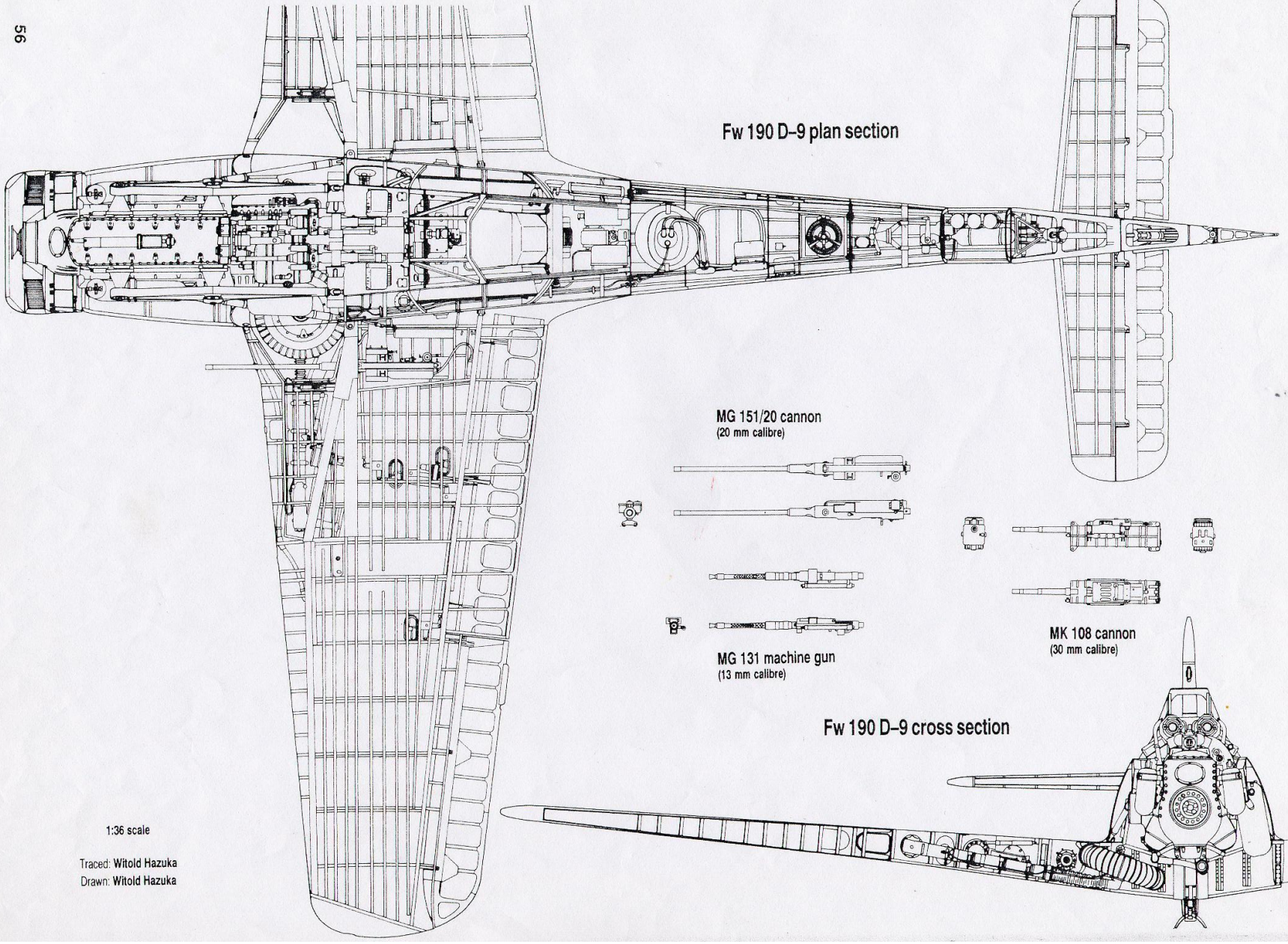


Ta 152 C–1 longitudinal section



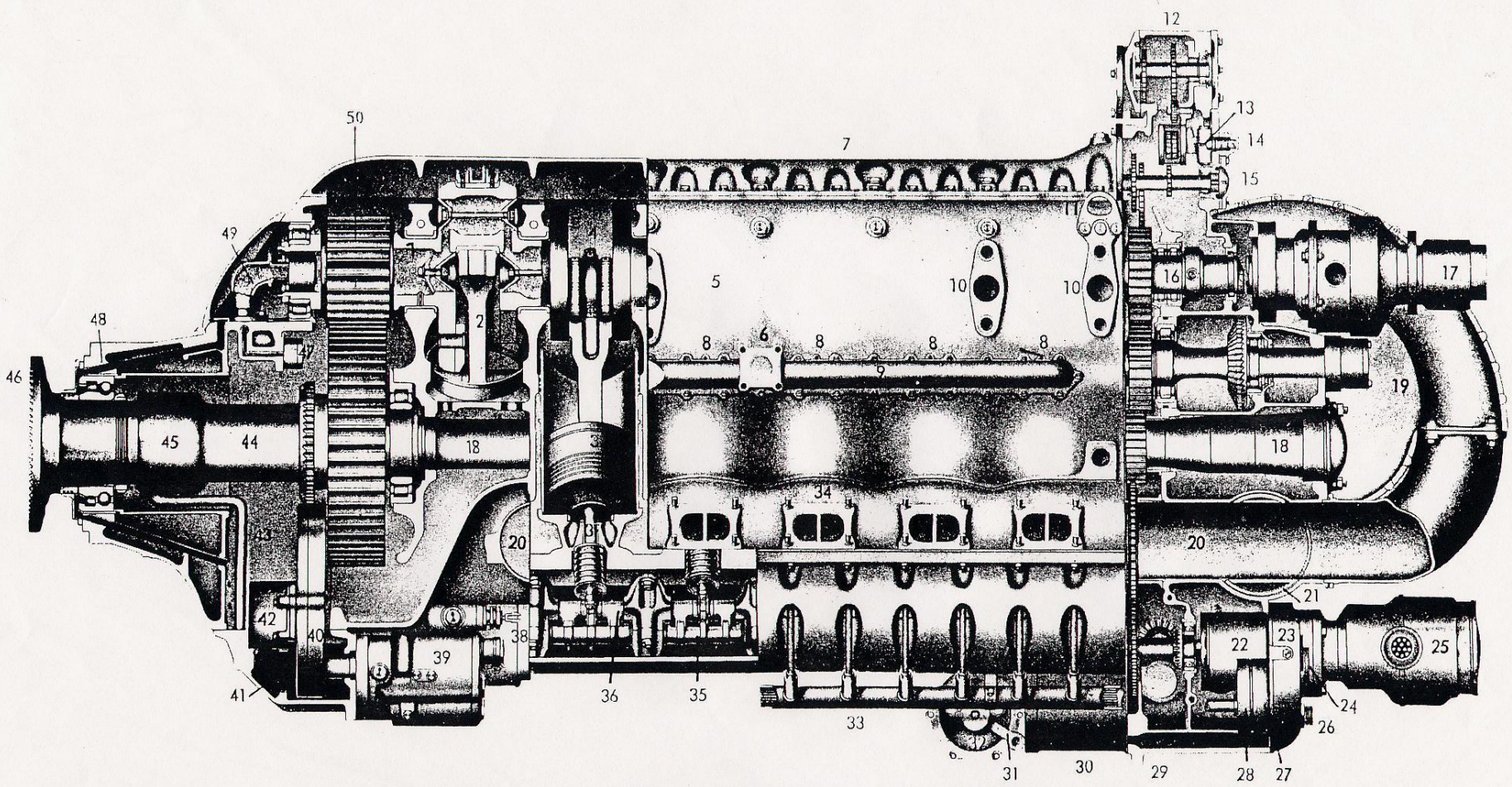
Ta 152 H–1 longitudinal section





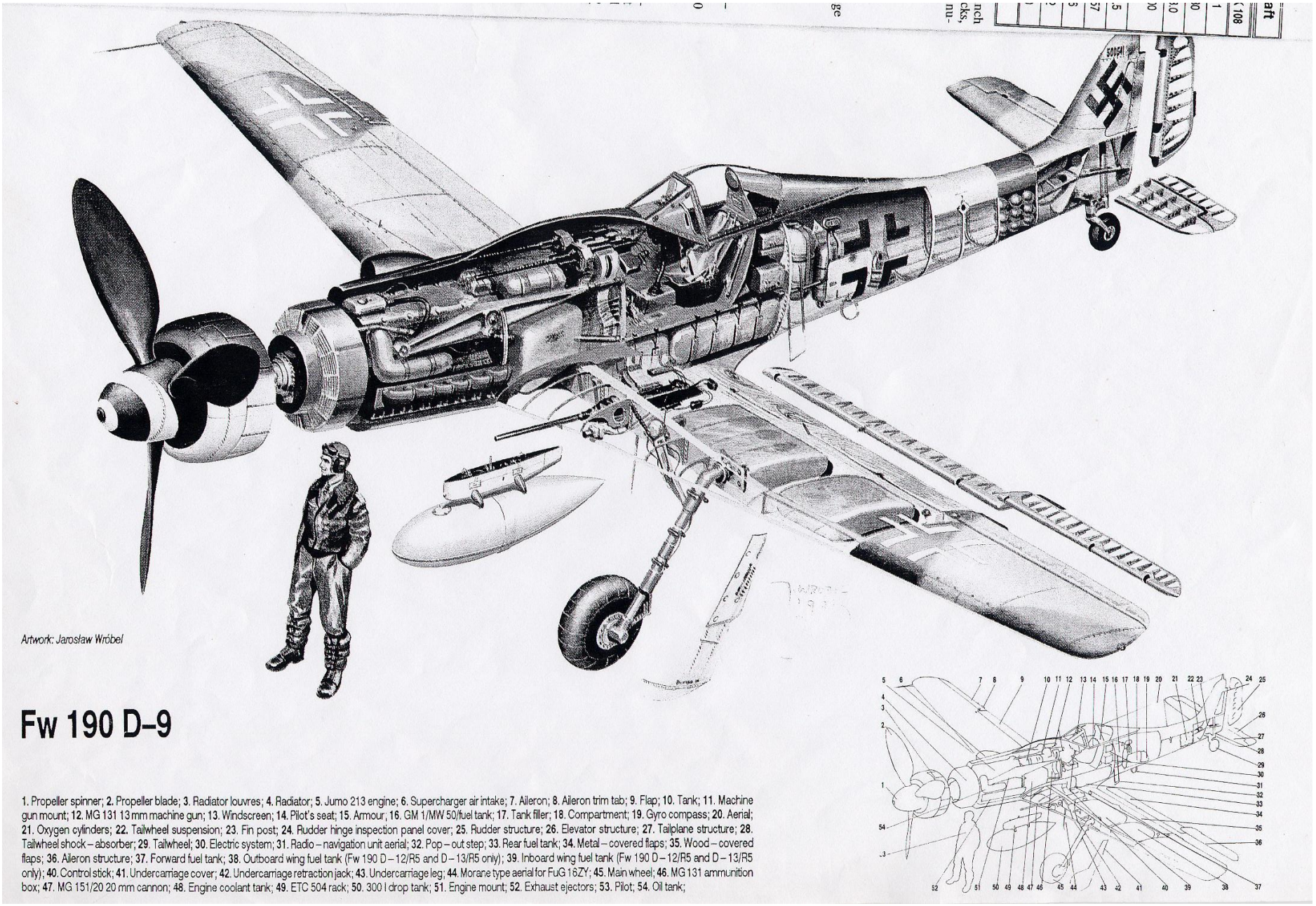
1:36 scale

Traced: **Witold Hazuka**
Drawn: **Witold Hazuka**



1 Crankshaft
2 Master connecting rod
3 Piston
4 Secondary connecting rod
5 Crankcase
6 Coolant outlet
7 Cover
8 Drain hole
9 Coolant pipe cover
10 Attachment point
11 Hoisting eye
12 Synchronizer drive
13 Timing pump
14 Tachometer generator gearbox
15 For addition of graduated disc
16 Oil feed
17 Inertia starter
18 Center bore hole
19 Supercharger
20 Air pipe
21 Idle reducer
22 Ignition timing
23 Set screw
24 Control gearbox lever
25 Twin magneto
26 Oil inlet
27 Oil bypass pump
28 Oil return pump
29 Engine kill switch
30 Intermediate oil case
31 Ratchet for oil filter
32 Oil filter
33 Interference suppressor
34 Exhaust opening
35 Camshaft
36 Valve rocker shaft with valve rockers
37 Exhaust valve
38 Control gearbox lever
39 Propeller governor
40 Drive housing
41 Elbow filter
42 Oil return pump
43 Propeller hydraulic line
44 Propeller shaft
45 Lantern
46 Propeller connecting flange
47 Calibrated nozzle
48 Drive housing
49 Connector
50 Reduction gearing

Sectional drawing of the Jumo 213 A-1 engine.



Artwork: Jarosław Wróbel

Fw 190 D–9

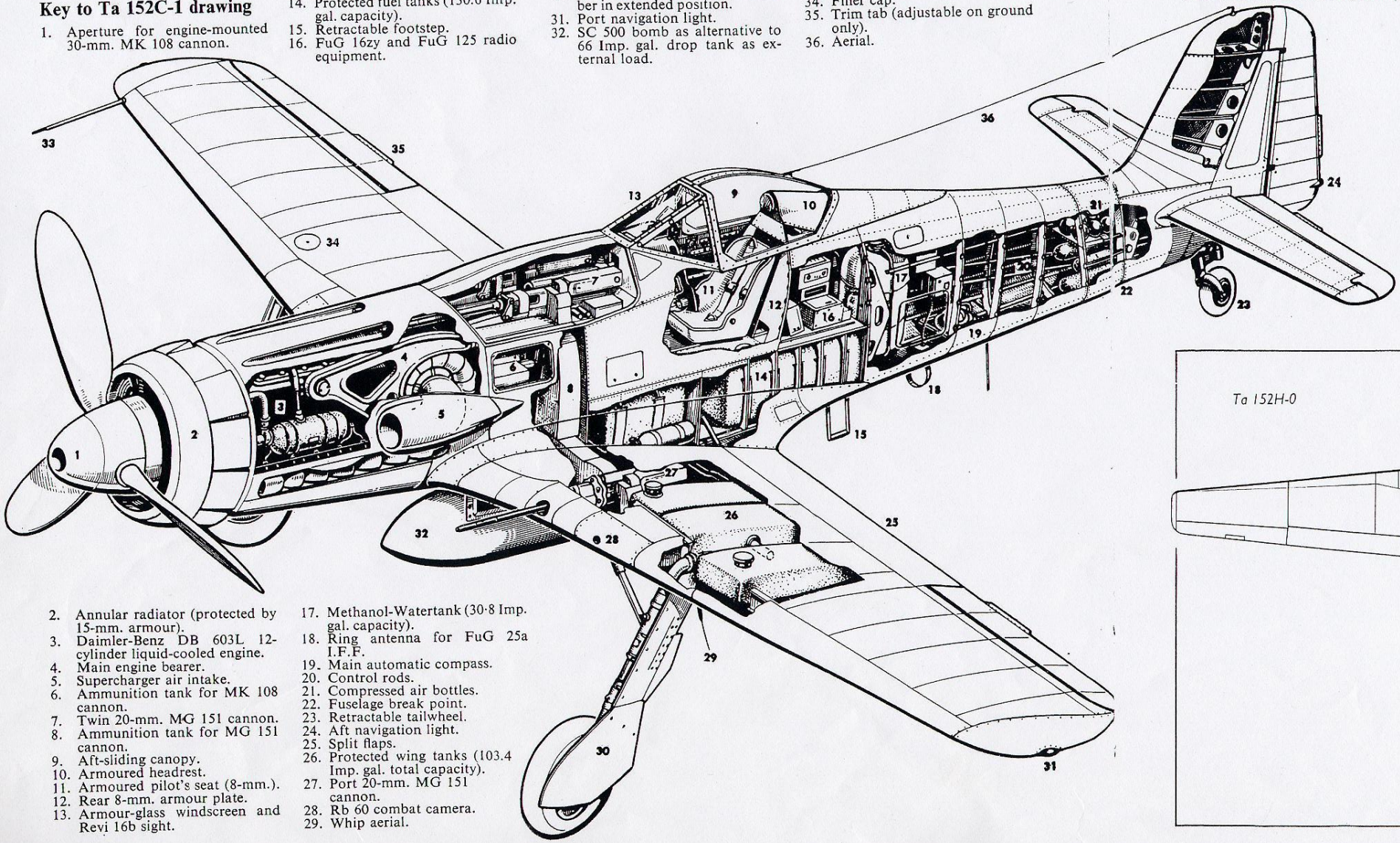
1. Propeller spinner; **2.** Propeller blade; **3.** Radiator louvres; **4.** Radiator; **5.** Jumo 213 engine; **6.** Supercharger air intake; **7.** Aileron; **8.** Aileron trim tab; **9.** Flap; **10.** Tank; **11.** Machine gun mount; **12.** MG 131 13 mm machine gun; **13.** Windscreen; **14.** Pilot's seat; **15.** Armour; **16.** GM 1/MW 50/fuel tank; **17.** Tank filler; **18.** Compartment; **19.** Gyro compass; **20.** Aerial; **21.** Oxygen cylinders; **22.** Tailwheel suspension; **23.** Fin post; **24.** Rudder hinge inspection panel cover; **25.** Rudder structure; **26.** Elevator structure; **27.** Tailplane structure; **28.** Tailwheel shock – absorber; **29.** Tailwheel; **30.** Electric system; **31.** Radio – navigation unit aerial; **32.** Pop – out step; **33.** Rear fuel tank; **34.** Metal – covered flaps; **35.** Wood – covered flaps; **36.** Aileron structure; **37.** Forward fuel tank; **38.** Outboard wing fuel tank (Fw 190 D – 12/R5 and D – 13/R5 only); **39.** Inboard wing fuel tank (Fw 190 D – 12/R5 and D – 13/R5 only); **40.** Control stick; **41.** Undercarriage cover; **42.** Undercarriage retraction jack; **43.** Undercarriage leg; **44.** Morane type aerial for FuG 16ZY; **45.** Main wheel; **46.** MG 131 ammunition box; **47.** MG 151/20 20 mm cannon; **48.** Engine coolant tank; **49.** ETC 504 rack; **50.** 300 l drop tank; **51.** Engine mount; **52.** Exhaust ejectors; **53.** Pilot; **54.** Oil tank;

Fighter. His status in RLM circles was sufficiently important to enable him to persuade the Ministry to accede to his

Meantime, an Fw 190C-series prototype, the [illegible] (*Nr.* 0057), had been rebuilt to test certain features of the Ta 153,

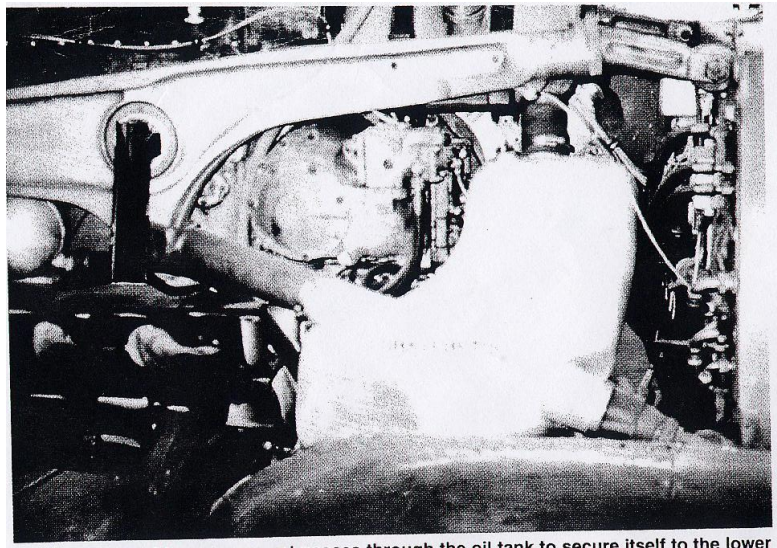
Key to Ta 152C-1 drawing

1. Aperture for engine-mounted 30-mm. MK 108 cannon.
2. Annular radiator (protected by 15-mm. armour).
3. Daimler-Benz DB 603L 12-cylinder liquid-cooled engine.
4. Main engine bearer.
5. Supercharger air intake.
6. Ammunition tank for MK 108 cannon.
7. Twin 20-mm. MG 151 cannon.
8. Ammunition tank for MG 151 cannon.
9. Aft-sliding canopy.
10. Armoured headrest.
11. Armoured pilot's seat (8-mm.).
12. Rear 8-mm. armour plate.
13. Armour-glass windscreen and Revi 16b sight.
14. Protected fuel tanks (130.6 Imp. gal. capacity).
15. Retractable footstep.
16. FuG 16zy and FuG 125 radio equipment.
17. Methanol-Watertank (30·8 Imp. gal. capacity).
18. Ring antenna for FuG 25a I.F.F.
19. Main automatic compass.
20. Control rods.
21. Compressed air bottles.
22. Fuselage break point.
23. Retractable tailwheel.
24. Aft navigation light.
25. Split flaps.
26. Protected wing tanks (103.4 Imp. gal. total capacity).
27. Port 20-mm. MG 151 cannon.
28. Rb 60 combat camera.
29. Whip aerial.
30. Port main undercarriage member in extended position.
31. Port navigation light.
32. SC 500 bomb as alternative to 66 Imp. gal. drop tank as external load.
33. Pitot tube.
34. Filler cap.
35. Trim tab (adjustable on ground only).
36. Aerial.



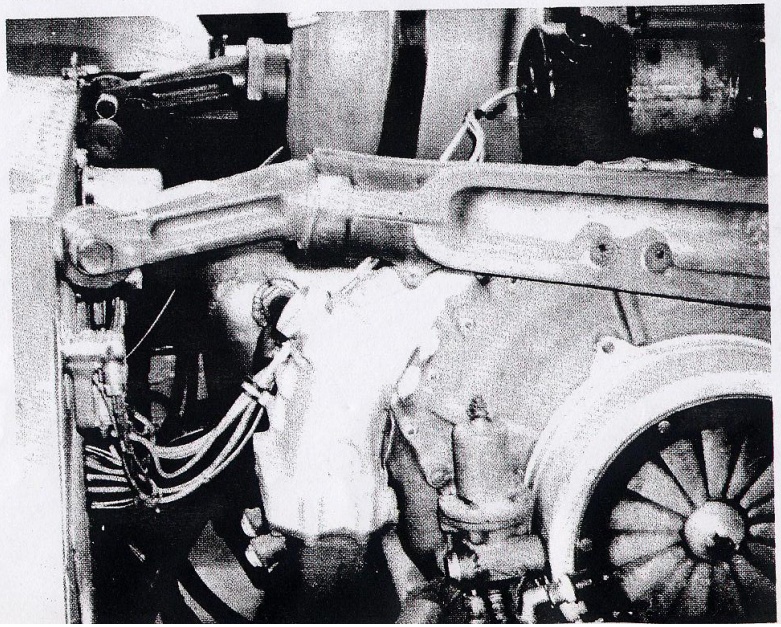
TA 152H SERIES

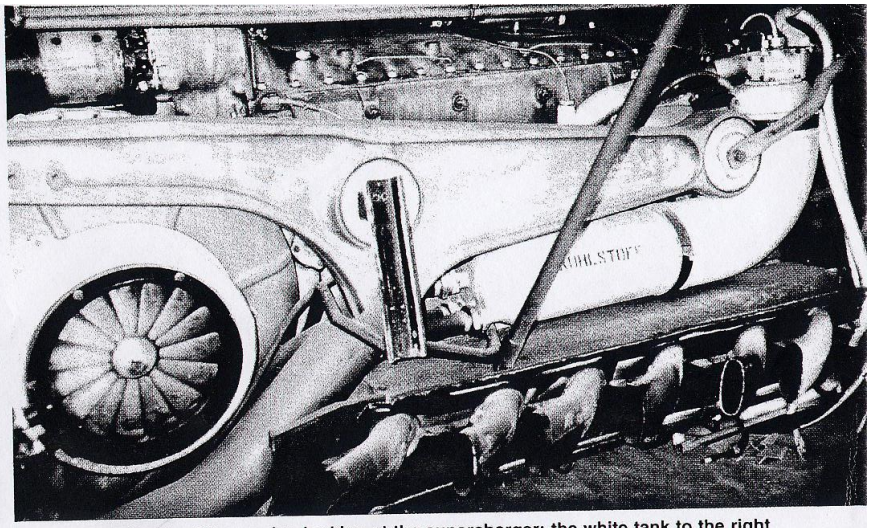
As several sub-types of the Ta [illegible] production aircraft already laid



The lower port side motor mount passes through the oil tank to secure itself to the lower left side of the fuselage. (Author: Laing via Goss)

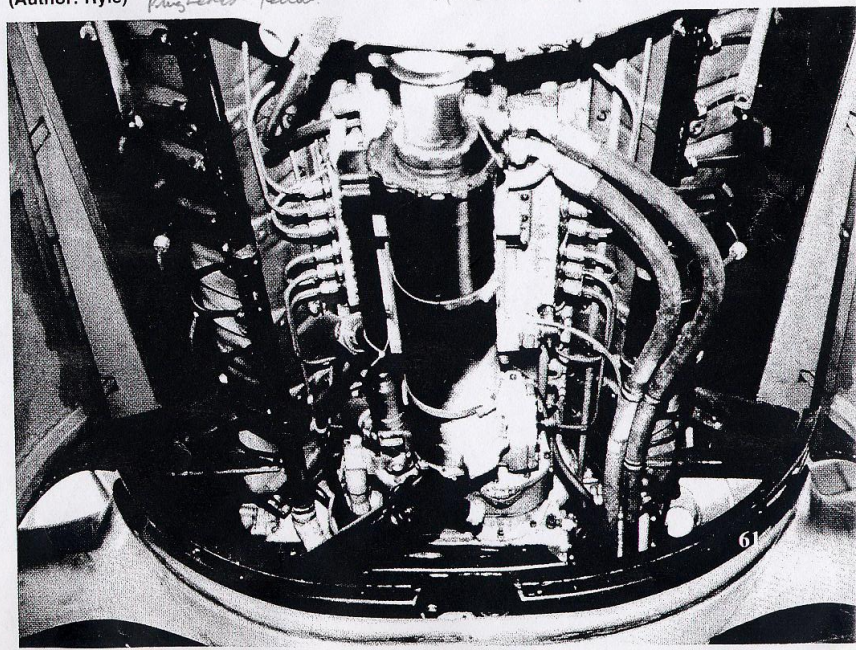
The starboard side of the engine/fire wall area, just behind the super charger intake. The Black/Silver/Black cylinder above the supercharger is the generator. (Author: Laing via Goss)





The starboard side of the engine looking at the supercharger; the white tank to the right is a coolant tank. (Author: Laing via Goss)

The bottom engine panels are opened providing a view of the under side of the engine from front to back. In the center are the fuel injectors, ignition harness and fuel lines. (Author: Ryle)



"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER

Events Schedule 2003

Items **highlighted** are where IPMS Hornchurch have space booked.

24th May (Saturday)	**IPMS Torbay** wish to announce a model show to be held at the **Torquay Town Hall, South Devon**. New Competition classes are being introduced. Should you be interested in booking your club or maybe you are a trader wishing to attend, contact the club Secretary for further details. Contact - Les Wells, 17 Helford Drive, Broadsands Park, Paignton, Devon TQ4 7NL. Phone 01803 844977. E-mail: wellzy_2002@yahoo.com
31st May (Saturday)	**IPMS Salisbury** Model Show at Wyvern College, Church Rd. **Laverstock, Salisbury**. England. Over 40 clubs & 20 traders have already booked their spaces.
1st June (Sunday)	**Northern Model Show**, South Shields.
6th July (Sunday)	**IPMS Mid Sussex** will be holding their annual show '**A Fort Full Of Models**' at **Newhaven Fort, Newhaven, East Sussex,** BN9 9DL, on Sunday, 6th July 2003 from 10.00 to 17.00. Club stands, trade stands, private displays, full access to the Fort, play area for the kids, adequate free parking. For information, contact: stephen.bagley1@btinternet.com
12th & 13th July (Saturday & Sunday)	**IPMS Durham**, Hartlepool Borough Hall, Headland, **Hartlepool**. Contact B Watt, 38 Caversham Road, Chapel House, Newcastle-upon Tyne NE5 1JP, E-mail: nemis@lineone.net
20th July (Sunday)	**Model Mania** at Cholsey School, **Cholsey, nr Wallingford**, Oxon. For more information call 0149 652 295 or 01491 652 536.
17th August (Sunday)	**IPMS Avon**, **Yate Leisure Centre**, Kennedy Way. For enquiries call Phil 01454 850119 or email ipmsavon@aol.com
31st August (Sunday)	**Brampton Model Show** – Priory Centre, **St Neots, Cambridgeshire**.
7th September (Sunday)	**IPMS Leicester Model Show**, Wycliffe Rooms, **Lutterworth**, Leicestershire. The show will be open from 10.00–17.00. Contact Martin Connolly: telephone 01455 284600, e-mail connollymj@fsnet.co.uk
28th September (Sunday)	**St Edmunsbury Scale Modellers Show**, at Moreton Hall, **Bury St Edmunds**. Contact Dominic Stevenson, 7 Silverdale Close, Ipswich, IP1 4JF, 01473 743189.
2nd November (Sunday)	**Elsecar Model Show**, Elsecar Heritage Centre, Wath Road, **Elsecar, Barnsley**. Details from Martin Blundell, tel 01226 753649.
22nd/23rd November (Saturday & Sunday)	**Scale Modelworld 2003** to be held at the Telford International Centre, **Telford Shropshire**

Secretary: Alan Carr
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01708 747849
Email: acarr.jaglancia@virgin.net

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01708 726 102
Email: Peter.Bagshaw@uk.pwcglobal.com

"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER

IPMS Hornchurch Annual Competition

February Miscellaneous Voting Results

Armour/Military

Position	Entrant	Entry	Votes
1st	Bob Sinfield	Achilles	46
2nd	Dave Ryan	Tiger II	41
3rd	Peter Bagshaw	M-24 Chaffee	36

Non-Armour

Position	Entrant	Entry	Votes
1st	Bob Ryan	USS Missouri	49
2nd	Brian Lay	The Matrix	43
3rd	Brian Lay	Bruce Lee	37

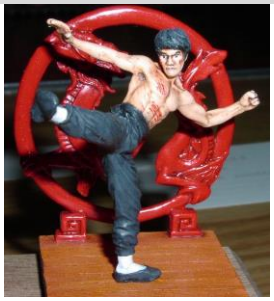
IPMS Hornchurch Trophy (Miscellaneous) – Final Positions

Brian Lay	158
Kevin Smith	124
Bob Sinfield	65
Ian Brown	65
Dave Ryan	48
Malcolm Robinson	48

Peter Bagshaw	44
Bob Ryan	25
Kevin Curley	25
Lee Dowling	23
John Huston	19
Paul Bennett	19

Armour/Military

Non – Armour



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"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER

IPMS Hornchurch AGM 2003 Agenda

1. Committee Reports
   - i) Secretary's report – Alan Carr
   - ii) Assistant Secretary's report – Peter Bagshaw
   - iii) Treasurer's report – Ricky Prager
   - iv) Competition Secretary's report – Bob Ryan
   - v) Display Co-ordinator's report – Mick Pitts
2. Election of Officers
   - i) Secretary
   - ii) Assistant Secretary
   - iii) Treasurer
   - iv) Competition Secretary
   - v) Display Co-ordinator
3. Sticky Fingers
4. Club Competitions
   - a) Announcement of winners for 2002/2003 competitions
   - b) Competition rules
5. Formulation of outstanding monthly dates for 2003/2004

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Current Club Competition Rules

- The competitions are split into 2, the Wally Arrowsmith Trophy for Aircraft subjects and the IPMS Hornchurch Trophy for Miscellaneous subjects.
- Each competition will be run over 4 rounds.
- The schedule and any "Themes" for the competitions are decided at the AGM in May.
- All models must have been completed after 1st May for that competition year.
- Each competition has been split into 2 categories.

	Category 1	Category 2
Aircraft	1/72nd scale or less	Greater than 1/72nd scale
Miscellaneous	Armour	Anything else, i.e. not an aircraft or armour subject.

- Registration of models must be made before 20:15 to allow voting to start at this time.
- Members vote for the winning models in order of preference from 1st to 5th places in each category and competition.
- For each competition round a maximum of 2 models per category may be entered, i.e. 2 models in Category 1 and 2 models in Category 2 are the maximum allowed per round.
- Modellers may enter either or both competitions and categories, Aircraft and Miscellaneous.
- A model may only be entered into any competition once.
- Dioramas count as 1 model.
- Two models on one base, but not a diorama, count as 2 models.
- Modellers are not expected to vote for their own entries.
- The person with the highest overall number of points in each competition (Aircraft or Miscellaneous) after the 4th round will be the club champion.
- In the event of a tie on points the number of 1st and 2nd places etc. will be the deciding factor.
- **In the event of a dispute the Competition Secretary's' decision is final.**

Scoring

Every model entered in each competition scores 5 points.
The following points will be awarded for the 1st five places in each competition category.

1st place	20 points
2nd place	18 points
3rd place	16 points
4th place	14 points
5th place	12 points

i.e. a person entering 1 model who comes 3rd will score 5 points for entry plus 16 points for 3rd place, giving a total of 21 points.

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"STICKY FINGERS"

IPMS HORNCHURCH - NEWSLETTER

Hornchurch IPMS Balance Sheet 02 /03

INCOMING

BALANCE BROUGHT FORWARD FROM 01 / 02	622.39	(+ 226.39)
SUBSCRIPTIONS MAY 02 TO APRIL 03	589.50	
TOTAL	**£1211.89**	**(+ £230.89)**

OUTGOING

CHURCH HALL	246.00
REFRESHMENTS	23.96
TROPHYLAND	200.75
PHOTOCOPYING	2.55
HOSPICE DONATION	50.00
GUEST SPEAKER (PURFLEET HERITAGE)	25.00
TOTAL	**£548.26**

BALANCE AS OF APRIL 03	**£663.63**	**(+ £41.24)**

ATTENDANCE

May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	TOTAL	AVE/MTG
26	30	25	22	33	30	26	24	31	30	21	26	324	27 (+0.3)

TOTAL MEMBERSHIP APRIL 02	**40**
TOTAL MEMBERSHIP APRIL 03	**41**
TOTAL LEFT DURING YEAR	**6**
TOTAL NEW MEMBERS JOINING	**7**
TOTAL MEMBERS WITH FULL ATTENDANCE	**6**

I.P.M.S. MEMBERS

TOTAL 15 MEMBERS

NOTES
DECEMBER CLUB NIGHT FREE.

2003/2004 Schedule Template

Based on last years events.

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June 16th	
July 21st	Competition: Aircraft
August 18th	Competition: Miscellaneous
September 15th	
October 20th	Competition: Aircraft
November 17th	Competition: Miscellaneous
December 15th	Quiz and nibbles
January 19th	Competition: Aircraft
February 16th	Competition: Miscellaneous
March 16th	Competition: Aircraft
April 19th	Competition: Miscellaneous
May 17th	AGM

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