

What's Up Doc – 2?

Les Lawry-Johns

The indignities I suffered during the preliminary examination to find the cause of my lump and pains were described last month. I then had to await the X-ray appointment, which was twice postponed. During this time the problem got worse then started to improve. By the time I went for the X rays I was beginning to feel a bit of a fraud. On top of that I was hungry, because you're told not to eat or smoke after midnight on the previous day.

I arrived and reported. "Ah, Mr. Lawry-Jones. Will you just go through there, up there, turn right and take a seat?" So I went down there, through there and turned left, then asked someone for directions. I finally arrived where I should have been and sat down next to a man in a white robe and dressing gown. I thought he'd been cheating – there was this white mark around his mouth. A nurse then came and took me to a changing room where I had to put on just a white apron and a dressing gown. Next I had to take this drink, and realised what the white mark was. Barium meal. Made me appreciate what cathodes have to put up with.

When my turn came I went in and found all this interesting electronic gear. There was a monitor just beside the "inspection trolley", which was vertical. I was told to stand against it while the scanner was swung up against my stomach. This was followed by further indignities – why do they have to do so much pushing and shoving around? The man pushed a button and I was lowered to a horizontal position. Something was swung over and he said "don't breathe". I hadn't since the first bit, and was feeling rather puffed. Clonk went the machine and I was told to go and get dressed. I let my breath out with a gasp. "Can I breathe now?" "Of course, you fool. How did you manage to keep it up for so long?" "They call me windbag" I explained.

That bit over, the man who'd taken the pictures suddenly appeared and asked me to follow him. When we reached a secluded spot he told me he was going to talk about pain. If I was badly injured that would be ten. The dentist's drill would be five. Stubbing my toe one. Had I got the idea? What was the pain number when he pushed my stomach around?

"Zero" I said. He told me to go and I've not heard anything since. Perhaps I shouldn't have bothered.

Return to the Ranch

There was a man waiting outside when I got back to the shop. He started off before I'd even opened the car door. "That music centre you repaired last week . . . it's gone off again." I'd put my last pair of SN76003s in it and can't get any more. What a welcome! Inside there were more people waiting to tell me their troubles. No one wanted to hear about mine. Back to normal – but not quite. There followed three days of absolute agony as the barium meal clogged my innards.

What about the music centre with the SN76003 output chips? One was open-circuit and the other dead short, same as before. I studied the SN76023 and decided to try a couple of these with modifications to the feedback. Cut the print from pin 16 to the 100 μ F capacitor and add a 100 Ω

series resistor, then add a 27k Ω resistor between pins 4 and 16. It worked. But I won't be paid . . .

The 3000

The next patient was an old Thorn 3000 that was suffering from various ailments. All but one of these responded to quick treatment. What we couldn't get was reliable line lock. It seemed that there were no feedback pulses to the flywheel line sync discriminator circuit. We checked for dry-joints, then ensured that the feedback/integrating resistor R506 was intact. After this we decided to change the line timebase panel complete, to prove that the fault was on this and not in the sync separator circuit, which is on the video panel, or the interconnections. The fault was still present with the replacement panel fitted, so we chased through the wiring loom. This was intact and a replacement video panel failed to improve matters. I just didn't believe it. The field sync was perfect, but the line sync almost unlockable.

I fiddled with this, that and the other, then looked at a 3000 that was on soak test and working perfectly. I took the line timebase panel from this and fitted it in the set on the bench, removing our "reliable" test panel. Perfect lock. I shouted at the test panel and called it a traitor. A resistance check proved that R506 was not returned to the timebase earth at the transformer end – the earth lead was off at connection C on the e.h.t. transformer (T503). Only just off, so as not to call attention to itself. When resoldered, the earth connection was complete. Refitting the panel produced solid line lock.

Back to the original panel. Again no earth return path, this time due to a fault in the transformer. Scrape away the blue jelly and find the winding leadout disconnected from C. Two panels with the same fault condition. It could happen only to us?

A Moan

The PL802T solid-state replacements aren't what they used to be. The valves themselves are getting dearer and dearer – if you can get them at all – so we do use the T version. Of late the heater resistor section seems to keep springing open. The original versions didn't have this spring. After being let down on several occasions, we now make the spring an offer it can't refuse – we wrap a piece of wire around it prior to resoldering. Why the spring type is used beats me. Come back valves, all's forgiven.

Jenny's Visit

Jenny came in whilst I was busy with this music centre that wouldn't come apart. She's a nice middle aged lady who lives up the road. As an ex-hospital sister, she'd been interested in my problem. A strangulated hernia she called it, and commented that it would probably turn to gangrene. As I say, a real nice lady, now here to enquire about the X ray. So I told her about the barium meal and what it did to my guts and the effects on my piles.

"Oh yes it does happen. Take it easy and I'll be around

to help.”

“Clear off and leave me be” I bawled, frightened out of my life.

The Music Centre

It was a Waltham music centre, and refused to be dismantled. Now when something refuses to come apart, I’m a firm believer that it knows best and doesn’t have to be taken to pieces.

It’s really that ET who stands above the desk and points

at me all day long. I swear he talks to me. That soft voice . . . “It doesn’t have to come apart Les, just think for a moment.”

Since the complaint was that the cassette section was making a funny noise (through the speakers), I decided that the record/playback switch needed exercise and cleaning. So I managed to squirt some Servisol on to the switchbank, then inserted a blank tape so that the button could be depressed a few times. Record stop, record stop, record stop. No more noise and no further action required. Thanks ET.

My friend Jim

Les Lawry-Johns

I've known Jim for a good few years now. He's in the trade and often pops in to buy some bits and pieces he needs and hasn't got in stock. Usually my last G8 line output transformer or 9000 tripler – you know, the kinds of things you're going to need during the next minute or so. He's not all that interested in servicing however. His main interest seems to be in building. The upshot is that whenever he gets a set he doesn't like the look of he'll bring it along with a comment like "have a look at this for me old chap, only I've got a floor up and really must fix it before the wife comes home". And off he goes leaving me with a bitch of a job.

The Thorn 9600

He carted this Ferguson 9600 in and left it with me. The 2.5AT mains fuse had blown in a nasty way so I went straight for the filter capacitor, which was innocent. Next the bridge rectifier, which was short-circuit. So I whistled a happy tune as I replaced it, stuck a new fuse in and switched on. There was the usual pause, then it started up normally. A white line appeared across the screen so I checked the supply to the field timebase and then the output transistors. These were all o.k. It wasn't until I turned to the line/field oscillator subpanel on the right-hand side that I found a BC147 transistor (VT402) open-circuit.

With this replaced we had full scan, quite a nice picture and loud, clear sound. I then remembered something else Jim had said. Apparently the set often worked all right for some ten minutes or so and then tripped out. I left it on for some time and sure enough it suddenly gave a few gulps and went into a strike situation. I noticed that just before it did this the sound went down. So with enormous presence of mind I removed the 500mA fuse (F513) in the supply to the audio panel. The set then came on when asked to and apparently stayed on.

I removed the left-hand side audio panel and checked each transistor separately. They all proclaimed their innocence of course. The output pair were on heatsinks but the driver wasn't, so bearing in mind the loss of volume before the set tripped I reasoned (wrongly of course) that the driver could well be at fault. This is a BD386, which I didn't have in stock. I put in a BD204 instead, confident that it wouldn't give in easily. Quite right, it didn't. The set behaved happily for an hour or so then Jim came in to collect it.

Jim's Return

Within the hour Jim was back with it. "Tripped after ten minutes" he said. So I removed the audio panel and left the set on without it. After half an hour it tripped. Back went the audio panel and the set played away happily enough for quite some time. Then the sound decreased and off it went into sullen silence. Everything shut down except the supply to the chopper circuit. I checked everything in sight and out of sight. Then I started to think.

The sound went down before the set tripped, and the

fault wasn't in the audio panel. So I removed the 500mA fuse F511 in the feed to the 24V regulator. This upset the field timebase but the set didn't trip. To cut a long story short, it wasn't until I removed the supply to IC2 (MC1358P) on the signals panel that the tripping stopped. When this i.c. was replaced our troubles were over. The intercarrier sound and audio preamplifier chip for heaven's sake. What next? Jim then came to collect the set.

The GEC-Hitachi

An hour later he was back again. This time however he didn't lug in the Thorn. Oh no! That was just a forgotten incident now. This time he had a GEC set we didn't recognise. It was a C2265 (Hitachi NP81CQ chassis) and it took me some time to realise that what I took to be a chopper transistor was in fact a chopper i.c. (IC901, STR441). So I studied the notes in the manual, hoping to get a clue as to how to start the thing up. They did provide a lead, and when I put the meter on R605/6 in the chopper feedback line the set sprang to life. It frightened the life out of me because the sound had been left turned fully up. I turned it down and switched off. When I switched on again the set remained dead until I prodded around the feedback network – the chopper is a sort of blocking oscillator arrangement. The set then came to life. Until the meter probe slipped. There was a nasty flash and the 2.5AT mains fuse disintegrated. "Oh dear" I said.

Like a fool, I put another fuse in and tried again. FLASH! I checked the strange STR441 and found it short-circuit. So I ordered one and got it (along with some other things) next day. I fitted the three-legged device and bravely switched on. The fault was still there. I checked each item in the feedback network and they all read right. I then took them out to make sure. They were all right, so I put them back again and after that the set performed perfectly. Just another dry-joint? Must have been, but it certainly didn't show.

Thanks Frank

On the subject of GEC I must pass on a message of thanks from several of my trade friends who have had cause to be grateful to Frank Pretty of the GEC technical advice department. He's been most helpful to all who have phoned asking for advice and have received more than they hoped for. I haven't had the pleasure of talking to Frank yet, but I very nearly did over the C2265.

The Passing of Ben

You no doubt remember me chattering about our dog and cat (and bird). Well Ben isn't with us any more and we do miss him. Spock seems to complain all day long, loudly. Ben lost the use of his back legs and was unable to digest his food. He passed away peacefully but still seems to be around. Thanks Ben. I do wish that cat would shut up.

Tiny Tim's New Shoes

Les Lawry-Johns

Tiny Tim eventually got the new pair of shoes he needed so much – from Tinker Bell, for Christmas. So on Boxing Day he put on his new pair of shoes and kept them on. That evening he had a few drinks (quite a few) and as the hour grew late he indulged in dancing with a young lady (a member of the family you understand). Whilst demonstrating his amazing dip and reverse he somehow stumbled and fell, bashing his chest on the bar. So Tinker Bell took him home and he managed this feat without falling down. When he got upstairs he did fall down, across the table, hitting his chest in the same place. So Tinker Bell guided him to the bedroom and as he was undressing he sort of stumbled and fell on to the arm of the vicar's chair, again on the same rib.

In the morning he couldn't cough or blow his nose but he did sneeze once and that very nearly killed him. He was very cross and vowed not to wear new shoes any more. It still hurts.

The Puzzle

Despite Tim's injuries he managed to carry on almost without complaint. It was business as usual and he made a muck up of only one or two jobs. Until this fellow came in carrying a 14in. Philips portable that is. Tim thought he recognised it as a KT3 and felt confident he could stick in a new 4.7Ω resistor without too much trouble. So he tried to show off.

"Hang on a moment sir, won't take a second."

His doubts grew as he turned the set around. Why was there a three wire mains lead (no plug)? He removed the rear cover and noted a couple of tracks blown open on the right side lower print, then released the top catches and lowered the panel to get at the lower right side of the power board. On removing this he was stunned to see that it was severely blackened and had several tracks blown open. He looked at the control board next to it and noted that this had also taken a pounding. He looked at the man who'd brought it in and confessed that it wouldn't be a quick job and could well turn out to be expensive.

The man showed no surprise. "That's what I thought you'd say. I don't want to spend much on it. If you like you can keep it for spares."

So Tim was left with this bundle of mystery and resolved to solve it when time permitted.

When he returned to it later he started by repairing the power board, replacing two of the diodes in the mains bridge rectifier, the 4.7Ω surge limiter resistor and the 12V zener diode that had gone short-circuit. He then cleaned off and remade the tracks. The control board needed quite a bit of attention – two transistors, a diode and track repairs. The main board also presented a problem, with tracks blown and two diodes at the top short-circuit. There were lots of other faults to clear up,

all apparently due to the original big bang.

Tiny Tim looked at the green earth lead suspiciously and checked that it did indeed go direct to chassis. Also that the brown and blue leads went direct to the power board, i.e. there was no on/off switch. Rightly or wrongly he concluded that the set had been removed from an entertainment centre which must have featured a central bank of switches and a mains isolating transformer. So Tim removed the green lead altogether before testing the set, which now worked perfectly. He put it on one side, intending to show Tinker Bell how clever he'd been when she returned from a visit to the daughters.

Zacharius

When she did return all thought of the set left his mind. This was because she came in with a large puppy Alsatian on the end of a choke chain. She'd apparently had quite a time trying to control him.

"This is Zack" she explained. "When he grows up he'll guard us and we'll be able to sleep at nights. The trouble is that he's a bit unruly and I sound sappy saying Zack back or back Zack. We'd better change his name."

The outcome was that he came to be known as Zeb. He's quite a handful, being only four months old, with boundless energy and a fear of being left on his own for a second or two. Tim's ribs have taken a battering – the cat doesn't like him either.

Sans Switch

When Tim finally showed Tinker Bell how clever he'd been with the Philips portable he was a bit disappointed with her reaction.

"Why can't you switch it off?"

Tim was annoyed with this lack of appreciation.

"The set incorporates this latest safety factor, so far present only in this one set. There's no flimsy on-off switch. When sets are not in use they should be disconnected from the mains supply completely to ensure that they are safe."

Tinker Bell was not impressed. But the more Tiny Tim thought about it the more convinced he became that he was right. He resolved to write a letter to the editor of *Television* magazine suggesting that no sets made in future should be fitted with an on/off switch. . . .

Thorn 1600/1615 Chassis

Tim is also getting angry with the daft 24kΩ resistor (R5) used in these 20 and 24in. monochrome sets to feed the tuning voltage supply regulator. Surely a resistor connected between a 185V h.t. line and a 30V line should be rated at 2W or more for long-term reliability?

Sid's Secret Weapon

Les Lawry-Johns

Our old friend Sid popped in the other day and left a Ferguson 3787 with us for repair. "No hurry Les, I'll be back on Saturday." Since this gave me four days I agreed to have a go, despite my in-built fears of these Nordmende made colour portables that have given me so many hours of torment in the past. I wish an expert on these horrors would write an article for us outlining the pitfalls to be expected when idiots like me try to fumble around in them in the dark. Can you hear me someone out there? . . . help!

I removed the rear shell, loosened the two wing nuts and lowered the chassis. The blue line output transformer at the bottom right caught my eye. It didn't look right. I decided to switch on however to see what would happen. To my surprise the set started up, but in a half-hearted way. I felt the top of the 4.7Ω surge limiting resistor RA05: it was stone cold. When I'd switched off I found that it was open-circuit. The set had been trying to work via the soft-start circuit, which was why RU05 (680Ω) was hot and bothered. So I fitted a new surge limiter and tried again. The sound came on but the tube's heaters didn't glow: the h.t. was correct but all the line output transformer derived voltages were low.

I looked at the transformer again and realised that the top half of the core was missing. I'd a suitable old transformer with a similar core so I stripped it down: the core fitted nicely and I glued it in position. Everything then seemed to be in order. A BBC-1 picture appeared and looked good. It stayed on until I pressed the second button for BBC-2. The set then immediately shut down.

I switched off and tried again after a few minutes. The set came on for a few seconds then shut down. I removed plug II, the feed to the tuner control unit, and tried again. The set now came on, but without any picture or sound of course. There was plenty of noise however to show that the set was willing. It stayed on like this for an hour. Then I replaced plug II and it immediately shut down. So I removed the tuner control unit and checked just about everything. Finding no faults at all I refitted it and tried once more. The set now came on, but on switch position five – and wouldn't be budged. It seemed as though the SAS590 had taken exception to my probing. After fitting a new one the set came on, on channel 1, and didn't object to changing channels. I felt relieved and left it on for quite some time.

I thought I'd disconnect the aerial and let it play away to itself. The act of disconnecting the aerial resulted in the set shutting down and this made me very angry.

I decided that the set was working in too sensitive a condition and studied the circuit at some length. Perhaps if I adjusted the set-e.h.t. control RZ13? I did so carefully, for 27V at the slider. After doing this the aerial could be removed and channels changed at will. "Why didn't I do that in the first place?" I scolded myself.

The set behaved itself until Sid came to collect it. He

phoned yesterday to say that it works o.k. until the aerial is plugged in, then it shuts down. He'll be bringing it back in as soon as he has a chance. Back to square one . . .

The Quiet Life

When the Nordmende had departed life settled down for a few days to a more peaceful run of routine jobs. You know the sort of thing:

"You put a new element in my kettle last week and now it's burnt out. Surely these things are guaranteed?"

"Yes madam, if they are automatic. The one you had wasn't, and you did opt for the cheapest one without a cut-out. If you let it boil dry and cook up you can hardly blame the makers, or me."

The Thorn 9000 which had a new SKE diode (the one in series with the Syclops transistor) fitted six months ago and now has a tripler arcing to the frame. "I thought all work was guaranteed for a year."

Not all customers are unreasonable however. Some are quite understanding. Mainly men, but some women are, especially when you tell them you have a stiff leg (the remainder of this passage is censored – editor).

The Philips CTX-S

We seem to be getting a fair number of Philips sets fitted with the CTX-S chassis in lately. They are nice little sets with only a few common faults. Probably the most common, as with the KT3 etc., is failure of the 4.7Ω surge limiter in the power supply. One came in the other day however with the 300V supply present right up to the collector of the BUX84 chopper transistor.

The chopper drive circuit uses discrete transistors, so fault finding is fairly straightforward. The driver transistor is a BF422, a small 250V npn video type. It had failed. I prefer to fit the more beefy BF337, but it's essential to remember that the base is in the middle with this type, so it must be turned to present the base at one end as marked on the print. Provided this is done and plenty of clearance is left for the body (collector) more reliable operation is assured without the need for a heatsink.

These items, the BUX84 and its drive arrangement, occupy the front right side looking from the rear and are easy to get at as the panel slides out once the rear cover is removed (four screws). Since the lady who'd brought the set in had been told the repair would be difficult and costly she was very happy to have it back in two hours.

Haunted . . .

What a contrast to the Nordmende that continues to haunt me. I'm sure it's only a simple adjustment but I did set it up according to the manual, honest. When it comes back I'll set it up according to me, so there . . .

In the Workhouse

Les Lawry-Johns

Yes we're back in the workhouse again – after a very lean period that extended from before spring until well into the autumn, a period when we fretted and wondered whether the trade would ever come back. The theories we pondered were many and varied, e.g. more reliable sets, too many spare sets and so on. Whatever the real reason, the wheel seems to have turned and the sets are now coming in thick and fast. Mainly G11s and T20s, with the odd ITT and GEC set for good measure. I'm glad of this since I don't like those odd sets with strange sounding names that were born half a world away, and I don't take in videos or computers either. They're too complicated for me. Fault tracing with a logic probe? Ugh! "How does he live?" I can hear you say. I suppose the answer is that we don't have a staff to pay, we don't want expensive holidays and we're always here when wanted. In the workhouse so to speak.

Tony's Ordeal

It seems that not only us men read this magazine. Apparently lots of women do as well. I know Keith Cummins' wife does, but then she was a local lass before she met him – him and that Casablanca image he projects. It would appear that Tony's wife also reads this Macho Magazine and when she read that bit in the November issue about Tony wearing black tights etc. she wasn't very pleased. What can I say? It was all by way of a joke dear, honest. The fact that Tony has been threatening to throw bricks through our windows late at night has nothing to do with this apology, nothing at all. It wasn't Tony who wore the tights. It was Jim (now I'm for it).

The Pye 725

Do you remember me telling you about the struggle I had with a friend's Dynatron fitted with the Pye 731 series chassis? If you recall, the trouble was to do with changing the BU208 line output transistor. Following the nightmare of removing the vertical panel I found that the screws holding the BU208 refused to budge. Son-in-law Dougie came upon the scene and offered to help using his car repair kit. The BU208 then came out all right but the panel was well nigh destroyed and took hours to repair. When I say how much I welcome a well known name on a set that comes in for repair I do have to admit to being dubious when one of these Pyes comes along.

One that I'd sold several years ago came in the other day. The centre 800mA h.t. fuse had failed but a meter check didn't record a short. Now this usually means that

the 0.1 μ F (1.25kV) first anode supply reservoir capacitor inside the top of the line output stage screening has shorted, but it hadn't. So a new fuse was fitted. It blew and another check was made. This time there was a short-circuit, and it just had to be the BU208. I tried to slacken the screws without removing the panel but had to accept defeat. So the nightmare started. It eventually came out and the BU208 was replaced. Now it's one thing to remove these panels, another to put them back complete with all the plugs etc. I know there's an easy way. It just doesn't seem to work for me and reading instructions is an art I've never mastered. I always forget what I've read as soon as I've read it you see. No, the 725/731 series isn't one of my favourites – not when there are line output stage troubles.

Droopy Draws

I suppose the G11 is one of my pets. These sets don't seem to give much trouble when they come in – and they do come in, thick and fast. EW troubles are normally due to dry-joints or the fact that the BY223 has caused the BD238 to fail. One that was a little different came in recently. No dry-joints could be found so we swung the line scan panel round and there it was: old droopy draws. The EW loading coil hung down in shame. It was like looking at myself. We always keep a few of these in stock, so in no time the new and more substantial coil was fitted and the raster sides were nice and straight again. It did look sad though, drooping down like that.

Such a Nice Girl

A car stopped outside and I could see that the driver was a young and very pretty girl with long blonde hair. So I resolved that I would do my best for her. She got out and I could see that there were two young kids and a baby in the car. Someone else had been doing his best already. She yanked a 22in. T20 out of the back of the car and casually brought it into the shop. Strong too I thought. She put it on the bench and without further ado told me about it.

"Fucking thing's gone again" she declared.

I didn't know what to say, me with my delicate upbringing.

"Where's it gone?" I gasped.

"It ain't gone nowhere you nit" she snapped. "I mean it's gone wrong again and I'm bleedin' fed up with it."

"When did I last do it?" I asked.

"Ain't bin here before. Those Snappy Service idiots had it – three times."

So I ventured a look and found that the BU208 was short-circuit. "Call back in half an hour and I'll tell you more about it" I whispered.

"Hope it's going to be done properly."

"So do I."

And away she went, roaring off down the road and

leaving me to fit a new transistor and test the set.

It had a funny way of coming on, remaining faint with curled edges for quite some time. This suggested to me that the power supply module was at fault, with probably one of the small $47\mu\text{F}$ capacitors suspect. So I fitted a replacement power panel and everything came on nicely and behaved itself.

She came to collect it. "Do you think the bloody thing will be all right now?"

"I hope so, but I've only fitted a power board and line output transistor so I can't speak for the rest of it. It's yours dear, not mine."

She said something nasty, paid up and went.

She was back next day and the air was blue. I yelled for help and Zeb came bounding in. He took one look and bounded out again. Some guard dog. H.B. popped her head around the corner and popped it back again. I was alone and felt lonely. I got the set in – she didn't carry it this time – and found that the 1.6A fuse on the power panel had blown. Fortunately I'd fitted a pair of $47\mu\text{F}$ capacitors (7C4/5) on the original board and this was now in full working order. It was replaced in a flash.

"Just a little thing. I'm sorry you've been bothered" I apologised.

"I suppose you want another small fortune?"

"Oh no madam, it's on the house. Our pleasure, so pleased to see you . . ."

"Bollocks" she snapped as she departed, I hope never to return.

The Network Colour Portable

After all those G11s and T20s and the experience just recounted an old friend popped in with a set I'd not seen before. It was a Network NW1414 14in. colour portable. I took the rear shell off, peeped inside and was depressed to see a chassis that lowered just like a NordMende, with a thyristor line output stage etc. Dead was the complaint and I just happened to spot a wirewound resistor sprung open at the top centre. R607, $1.2\text{k}\Omega$, 5.5W. The set started up when I touched the resistor together so I soldered it back. The set then worked perfectly and I left it on for some time, noticing that the resistor remained quite cold. I concluded therefore that it was a start-up resistor that had been suddenly asked to do a bit more than usual and wondered why. Having run it for some time I returned it to its owner.

He brought it back next day and I said I'd keep it for a week just to make sure. Once more the resistor was open and the set functioned perfectly when the contact was restored. It then continued to function every day for a week and has now gone back. I wonder what it was – and hope I don't have to find out.

(Editor's note: The set is one of the Grundig Networks, GCS100 chassis. See page 608 of the September 1984 issue for information on R607 going open-circuit.)

Zeb

I mentioned Zeb's cowardice when confronted with the young lady of the blue language. He's not really like that. It's just that he doesn't like high pitched noises – and she was certainly high pitched. Fireworks have the same effect. Otherwise he seems to know no fear. He's a very good guard dog and kicks up merry hell when anyone comes near the door and we're not around. That means a lot to us. Just thought I'd put the record straight. Now, about that cat . . .

And There's Another Funny Thing

Les Lawry-Johns

What strange things some sets can do. When Miss Converge brought in her Pye T194 portable (Philips TX chassis) I thought it would be another quick job. So she stood there while I fumbled about. She said it was the on/off switch and I wanted to show her that it wasn't. The supply was reaching the series regulator transistor but its output was only about 2V. So I checked the control circuit and everything seemed to be o.k. I took the tube base off to check for shorts or heavy loading but found nothing.

"Try the switch again" said Miss Converge.

"It won't make any difference" I growled.

Just to show her I switched the set on again and the sound burst out loud and clear. The only thing that was different was the disconnected tube base. I put this back on and the heater glowed merrily, followed by a raster. She smirked.

"It's not the switch" I insisted.

"All right then, try it again."

So I switched off, waited a while and switched on again. Nothing happened. I removed the tube base and the sound burst out. Put the tube base back on again and a picture appeared.

"If you fit a switch it'll be all right."

"Yes dear, if I fit a switch to turn the tube's heater off until the set has started up it'll be all right."

"Well do that then."

I was in no mood to argue, so I fitted a single-pole switch on the back cover and wired it in series with the tube's heater. I realised I was doing something wrong, but if that's the way she wanted it at least this would save me having to think. We could now switch the set on with the rear switch off, then close the rear switch and the tube would light up and everything was fine. I made sure she understood the procedure - keep the rear switch in the off position until the sound comes through.

After she'd departed, feeling satisfied that she'd been right all along, I was left to wonder what part of the control circuit had been at fault. I'd checked everything (I thought). Have you had a funny feeling like that? You probably found out what it was, like I should have done.

To Sweat or Not to Sweat

It's not often that a G11 makes me sweat, but one did the other day. The chap said he didn't want to spend more than twenty quid on it and I told him I didn't think that would be necessary.

I checked the h.t. line for a start. There was a short that disappeared when I removed the BU208A's plug, from the top. So I removed the line output transistor subpanel, fitted a new one and also a 1A fuse in the h.t. fuseholder (the one in there was 2.5A). Both the 3-15A mains fuses were intact.

With the new panel fitted I switched on. There was a flash from the 3-15A mains fuses and I found that two of the bridge rectifier diodes were dead short. I wondered

about this but fitted two BY127s and new fuses and tried again. There was a brief rush of sound and a spark from the tube base, then nothing. The glow switch on the power panel glowed and some smoke came from a resistor. The 1A fuse had failed and the new BU208A was short-circuit. Oh yes, I'd also taken out the green 470 μ F h.t. reservoir electrolytic and fitted a nice blue one.

The price was beginning to escalate so I thought I'd better check the tube. It was cracked. I took my blue 470 μ F electrolytic out and wrapped the whole thing up.

"Sorry sir, it'll be a lot more than twenty quid I fear."

Sam Boy

Sam is a local character who is slipped the odd pound by everyone who receives his "Morning Guv" greeting. This enables him to live comfortably without the need to work - except to clean the occasional car or something. He reminds me of a song we used to sing during the last war.

"Sam boy was a lazy goon
who never would work in the afternoon,
too tired was he, too tired was he.
Into the woods he used to go
just to get his head down low
under a tree.
When along came a bee
making this noise
bzz, bzz, bzz, bzz.
Go away you bumble bee
I ain't no rose, no silly little flower,
get off my (censored) nose, away from here.
If you want a bit of
you can
but you'll get no here.

A silly song maybe, but an evocative one. It brings back memories of the pubs in Gib (Main Street) and Alex (Beer Street) . . .

Prodnose: I don't see the point of all this and suspect you're merely trying to be vulgar. Your editor has been consulted and you are asked to stick to TV matters.

Myself: I'm sorry. I'll try to do just that.

Nobody Told Me

So where do all the turkey eggs go? The question occurs to me at this time of year and no one's ever been able to shed any light on the matter. Until the other day - in the pub this Sunday lunchtime.

"I asked him why you can't buy turkey eggs. The farmer said they only lay fertile ones which are hatched. The rest of the time they just gobble."

Well I never. Not like chickens after all. I also heard it said that farmers don't know how long pigs would live if they were allowed to. Then they turned to me and asked how long a TV set lives? I had to say that after ten years it's anybody's guess.

You won't believe me

Les Lawry-Johns

Last month I commented on the fact that TV sets can do some strange things. Here's another case, this time involving a Thorn TX9 chassis.

The TX9

A chap brought the set in and put it on the bench. I was busily engaged on a portable but he asked me to do a quick job, at the same time looking anxiously at the clock. So I put the portable to one side and whipped the back off the TX9. The 1.6A mains fuse had shattered and a light shone on the board revealed that the bridge rectifier diodes were in a sorry condition. I removed them and the red cover and wired the replacement diodes underneath for a quick test. After fitting a new fuse I switched the set on. The e.h.t. rustled up, a picture appeared and a look of profound relief showed on the chap's face. The picture then suddenly disappeared and a bright blank screen took its place. Very bright, as you get on certain GEC sets (PIL/20AX chassis) when the 82k Ω resistor in the RGB output stage clamp circuit goes open-circuit. Before I could take any action the 1.6A fuse failed again, with a pop. This time a check on the bridge rectifier diodes revealed that they were innocent, and no shorts could be recorded. I fitted another fuse and tried again. The picture came on and seemed fine. Suddenly the blank screen appeared and while I was making some quick checks in the RGB output stages the fuse once more failed. Since the screen appeared blank white I reasoned that something was affecting all three RGB output stages, but why this should have blown the fuse puzzled me.

The chap became very agitated and said that if it was going to take any longer he'd rather return the set "to her". I didn't argue as I could see that he was upset, so I removed the bridge diodes to allow the red cover to be refitted and he took the set away.

Upon reflection, the strange thing was that the full h.t. was present at the collectors of the RGB output transistors, which are d.c. coupled to the tube's cathodes. I'd have thought that some 190V here would have blanked the tube instead of being accompanied by a bright, blank raster. The only conclusion I can come to is that C209 (0.1 μ F), which decouples the bias applied to the tube's grids, must have been going short-circuit intermittently. It's taken to the 190V line instead of to chassis to provide hum cancellation. But why should this have blown the fuse? I wish he hadn't been in such a hurry.

The Philips G6

You may recall the Philips G6 I mentioned a couple of months back – the one I sold many years ago when I could have sold my first G8. Well Mr. Furnace has since died but the set still carries on under the guidance of Mrs. Furnace. She phoned recently to say that the colour was now very slow to appear, so I went along to investigate. I was amazed at the clarity of the picture, though there was no colour. So I changed the EF183 and EF184 valves in turn. This made no difference, and the voltages all seemed about right. I then tried a cautious turn on the

core of the reference oscillator's coil. "Colour" cried Mrs. Furnace. "Bingo" I replied.

So there it still is, working and giving a perfect picture – with a tripler in place of the previous e.h.t. overwinding etc. Supplied in 1970. How about that?!

Infra Red

Ray brought in this Fidelity handset and was moaning because it wouldn't work. I had a radio set on the bench at the time so I switched it to long wave, tuned it to 200 metres and directed the handset at it. Nothing. I replaced the battery (Alkaline MN1604) and again pointed it at the radio. There was a series of clicks as the buttons were pressed.

"Well I'm blown" said Ray. "Is that all it was? It's three years since I bought that set from you and I never thought about it having a battery in it". I nipped upstairs and tried it on our CTV14S and it worked perfectly, as the radio set had said it would.

Thanks Denis

I'd like to thank those of you who offered me help with the Network colour portable whose start-up resistor would intermittently spring open. Special thanks are due to Network's service manager Denis Mott. I took down all you said Denis – about directing heat at the suspect components – and will follow this advice when the set comes back, as you all say it will.

Bounce, bounce, bounce

I was quite annoyed with a well known store that expressed doubt about taking my cheque (business account): Having identified myself, they accepted the cheque and overcharged me sixty three pounds. I got that put right and went away mumbling about their strange way of doing business.

Later that same day a nice man came into the shop and said he wanted a portable set for his daughter. He selected a nice black and white Pye and said he'd collect it later but would pay for it now. He presented me with a cheque for sixty nine pounds, on his business account, and wrote his address on the back. H.B. gift wrapped it and it looked splendid there waiting to be collected. He came back next day and expressed delight with H.B.'s efforts. He left in high spirits and we were pleased.

Next week we were not so pleased. The cheque had been returned as his account had been cancelled. I wrote a note to him at the address he'd given. This came back from the Post Office marked "gone away". Oh well, a small price for experience – it could have been a lot more.

Problems with Scotch

As I write this the festive season (Christmas through to the New Year) is at its peak. Here's a little story about a friend who's also a reader. He was at this party and had had a few beers. The host brought him a scotch (neat) which he was not used to drinking. So he topped up his

glass from a nearby water jug. "Um, not bad" he thought. There was a repeat performance and after that he began to feel funny but quite happy. Before he passed out like a light he was vaguely aware of a young lady emptying her glass into the water. "Wassat?" he enquired. "Vodka" she replied, "I've been doing it all evening – can't stand the stuff but you can't very well say so".

Next day he was decidedly out of salts. Daft you may say, but it can happen – especially if you're basically a beer man.

While on the subject of Scotch, an apology. Some time ago I did a job which was a bit of a swine for Mr. Webb. He gave me a china bottle in the shape of a ship's bell. Now I drink a lot of that brand of whisky and I said the contents were nice but not that brand. A few days ago I was presented with an ordinary shaped bottle of the same brand, with a black label marked twelve years old. It was identical to the scotch in the china bottle. Sorry Mr. Webb, I'm so used to the cheaper stuff. I feel ashamed of myself . . .

Horror Stories

Les Lawry-Johns

This lady brought in a Fidelity CTV14S colour portable. "It's hissing" she said, "it doesn't belong to me - it's my neighbour's."

I removed the rear cover and plugged the set in. The line output transformer started to hiss and sparks came from it. "Leave it with me" I said, "I'll dry it out and see whether that stops the problem. Call back later this afternoon."

The Arc Over

So I dried it out with a hairdryer and sprayed it with Plastic Seal. Switching on, I was quite pleased to hear that there was no hissing. I plugged in an aerial and a good picture appeared. A nasty arc over then suddenly occurred around the line output transformer and the field collapsed to a line across the screen. I assumed that the spark had damaged the field output chip and was surprised to find that this was a TDA3561 - it was the later version of the CTV14S. I looked through my chips and couldn't find one. No one I phoned seemed to have one either. So I phoned SEME and got one the next day. I fitted it in the portable and was most annoyed with myself when it didn't clear the problem. Oh yes, in the meantime I'd fitted a new line output transformer which I had in stock. I now had a hissless set but there was still no field scan.

I must confess that I didn't have the complete circuit for this fairly recent set, so I was in some doubt. I phoned Fidelity and received some good advice. "If the voltage at the scan coil plug is less than 13V, change the TDA2578A sync/timebase oscillator chip." Again I couldn't find one and again no one locally seemed to have such a thing. Feeling a bit sheepish I phoned SEME again and they didn't shout at me. I got the chip the next day and fitted it. Glory be, a nice blank raster.

I plugged in the aerial and the sound was loud and clear but the blank raster remained blank, with the brightness and contrast controls having no effect. In fact the only way to control the raster was by means of the first anode preset, which is part of the line output transformer. I started to panic. The brightness and contrast controls worked on the TDA3562A decoder i.c., which has twenty eight pins, so I checked everything else.

All this would have been avoided if I'd replaced the line output transformer in the first place instead of trying to rescue the old one. Mrs. Clearwater wasn't going to be too pleased with her bill. When the set had come in it had showed a good picture and I had told the lady who'd brought it in that I'd phone the set's owner when I'd got it sorted out. I'd better get permission to proceed. So I did this first. Now to proceed . . .

The signals went into the TDA3562A but didn't come out. The voltages were present but the output voltages were high. So I looked for a replacement chip which I knew I didn't have. Now don't get me wrong. We keep lots of chips in stock - all those I think we'll need. I just didn't think we would need these so soon and we wouldn't have done if I'd only fitted a replacement transformer in

the first place instead of drying the old one.

I felt terrible when I phoned SEME again, but luckily this time a different girl took the order. All those girls must be nice - efficient too. In no time she told me that the chip was in stock, then proceeded to tell me where I lived. Something to do with the computer, Stan said. And I've always hated those things. Live and learn.

Anyway the next day the chip arrived and was fitted after a bit of a struggle. At last I was able to phone Mrs. Clearwater to tell her that the set was ready. "Funny" she said, "all it did here was to hiss, and you've had all that trouble". This may seem a trifle to you but it was a nightmare to me, feeling guilty all the time because I'd taken the wrong action in the first place. I'll know next time.

It Ticks

Eddie brought in his Thorn 9800. "There's not much wrong Les, it just ticks." I scowled at him. "When these sets tick you're in trouble, and so's the bloke who has to sort it out."

"Never mind Les, just have a look."

So when I had a chance I looked. It just stood there ticking. I brought my 25V power supply into action and fed 25V to the mauve lead on plug 4 on the decoder panel - these sets tick when the internal 25V supply is missing. Sound burst out but there was no sign of life in the line timebase - no e.h.t. I checked the line output transistor (VT851) and it said it was all right. I removed the screws and turned the line output panel up. The base-emitter readings didn't seem right, so I removed the plug from the right side panel and checked again. R858 (8.2Ω), which is in series with VT851's base, was open-circuit. I didn't have an 8.2Ω resistor so I put in two 4.7Ω resistors (KT3 type) in series. The set then worked beautifully, displaying a nice picture, but channel six was on instead of channel one. I touched selector one: the set hesitated then reverted to six. I touched all the other selectors and it still came back to six. I cleaned the front and this made no difference. So I removed the internal screws that hold the selector unit and pulled this out, away from the plug pins. I sprayed the front panel inside and the result, when the unit was refitted, was that position three was displayed and couldn't be shifted. I put the set to one side as I was fast losing patience.

I polished off a G11 and a Pye 725, then returned to the 9800. I pulled out the selector panel, leaving the front unit still secured to the front moulding by three screws. With these off it could be removed from the front and stripped down. The plastic strip needed a thorough clean and after doing this I refitted the unit to the cabinet, pushed the selector unit back on and put the screws back. It now came on with channel one displayed (fancy that): 3, 4 etc. could be selected but not channel 2.

My spirits were beginning to get low after all this. I replaced neon two and that didn't make any difference, so I checked the voltages and found that two differed quite a bit. My eyes strayed downwards and immediately caught sight of a red lead snipped off the panel that held the ML237 chip: the two ends were visible and were quickly soldered together. Channel two could now be selected and the job was done - except for an odd dry-jointy noise on the sound. Disconnecting the audio plug from the top of the signals panel stopped the noise so I concluded that the output stage, which is on the power supply panel, was in order. I spent some time replacing suspect items, includ-

ing the MC1358PQ intercarrier sound chip and associated components. The noise had then gone, but came back after a while. I eventually had to admit that the trouble could be in the audio output stage so I replaced the output transistor, using an MJE340 turned round: the trouble stopped and the sound remained clear.

What an ordeal! I know it doesn't sound much, but it

damages my confidence – which has always been sadly lacking – and I feel a bit let down when I'm tackling jobs that won't go right. When the thing is eventually done I feel a lot better, but I still have this feeling that it shouldn't have taken so long.

Eddie got a ticking off when he came to collect his 9800.

Hush My Mouth

Les Lawry-Johns

If you remember, a couple of months ago I bragged about Mrs. Furnace's set: a Philips G6 which I'd sold to them some sixteen years ago. I mentioned how good the picture was. Well, she phoned the other day to say that the picture had gone into lines. So I packed my bag with care, taking with me in particular a PCF802 and a PFL200, the latter in case it was rolling too. In these sets you see the luminance output valve is a PFL200, the second pentode section being the sync separator.

We arrived at the house and switched the set on. When it had warmed up, the picture was in lines and I could see that it was also rolling over. So I decided to fit the new PFL200. As I did so I noticed that a small nearby resistor looked the worse for wear. It was one of the sync separator's anode load resistors, R2121 (68k Ω - it's a single-standard G6). Just to be sure I measured it and found that in fact it wasn't too far out. To be safe I replaced it, then tried the set again. This time the picture looked fine: I left Mrs. Furnace with her praise ringing in my ears. "Don't retire yet Les."

Next Day

Next day she was on the phone again. "The picture's all white with no picture but the sound sounds fine." I didn't doubt what had happened. The glass of the PFL200 had cracked when I'd put it in. It's happened before to ham-fisted idiots like me. So off I went again, this time with three PFL200s just in case.

The valve hadn't cracked, but I noticed a resistor laying in the bottom of the rear edge. It was the luminance output pentode's screen grid feed resistor R2111. My lightning sharp (what?) mind immediately pointed out that an open-circuit screen grid feed resistor would have caused the valve's anode voltage to rise, not fall, thus blacking out the screen. But I checked the resistor's value, which was correct at 2.7k Ω . So I refitted it and to be on the safe side checked the resistance to chassis (in case the decoupling capacitor was short-circuit, which it wasn't) and fitted another PFL200. The picture was now as poor as it could be. There was plenty of colour but no luminance. I decided to try the previous PFL200. There was a puff of smoke from R2111 and it fell off its tags again, this time damaged beyond salvation. I kicked myself hard, then fitted a new PFL200 and a new resistor.

We were now back to the lack of luminance.

I looked askance at the BC148 black-level clamp transistor in the luminance PFL200's control grid circuit: if the previous valve had gone short-circuit between its screen and control grids the transistor would have been dealt a mortal blow. I looked twice at the chassis and decided to remove the panel (three screws at the top). This done it was a simple matter to replace the BC148 - except that I didn't have one with me. I did however find a BC147, and decided to fit that. It worked fine and once more we had a lovely picture. I tottered out into the snow and managed to find my way to the nearest off-licence - I never drink at work but make up for it in the evening.

Mrs. Furnace phoned later that night, after I'd downed a few whiskeys, to say that her picture was rolling. "If you look at the back of the set you'll see that a knob sticks out at the lower rear centre. Turn it slightly, looking at the picture through a mirror: get the picture to roll down, then turn the control so that the picture rolls up and clicks into lock. O.K.?" I presume that when I refitted the rear cover the last time I'd moved the control slightly without realising it. She hasn't phoned back, so it's either all right or she's called in a more able engineer who's not thinking about retiring.

A Handy Tip

Here's a handy tip that's been passed on to me. Apparently lots of 20in. Philips sets fitted with the KT3 chassis are suffering from loss of blue and green to leave a predominantly red picture. The cause is loss of emission in the blue and green guns - the heaters are slightly underrun and the cathodes become contaminated. The tip is to short out the heater chokes on the tube base. Put a link across one of the two chokes and note the difference after a day or two. If there's no improvement, put a link across the other choke as well and leave the set working in this way for a day or so. When full emission has been restored, remove the links to leave the set in the original condition (chokes in circuit). I haven't tried this yet myself but we've a couple of KT3s that could do with it.

Reggie's Mum

Reg Butcher is in fact our butcher. He's an important person since he supplies Zeb with his weekly bones as well as our meat. When H.B. called into his shop last Friday Reg told her that his mother was in dire straights with her TV set. Would Uncle Les put in an urgent call?

So Les paid her a visit. She opened the door and I said "I've called about the TV". She told me my visit wasn't necessary as it had been fixed. I was a bit taken aback

because I knew they wouldn't call in anyone else and Reg always paid the bill. I told her that Reg had asked me to call.

"My Reg? Oh, you must mean the TV. I thought you were the telephone man. Come in." I went in and switched on the Thorn 8800. There was no green. She was talking away ten to the dozen about her ailments and the weather and what not whilst I tried to listen and answer, at the same time checking the voltages around the three top transistors. The voltage at the collector of the green output transistor was a lot higher than the voltages at the collectors of the other two output transistors. "What's wrong? Something gone has it? I suppose you'll have to order it and I'll have to wait as usual." I didn't answer as I was searching in my bag for a BF337. I found one, fitted it and the picture was then green. So I set the controls and wrapped the job up. "Oh you've done it then. I suppose they give you all those things in case you need them."

"No dear I have to buy them in case you need them."

"What happens if no one needs them?"

"I just have to keep them till they are needed."

"Oh, well. Never mind. Give my love to my Reg."

So off I went to present him with my bill.

"Thanks Uncle Les."

A Smashing Time

Later that day I called to a customer who said the set was too big to bring in. It turned out to be a Ferguson set fitted with the TX10 chassis - a 26in. model that lived quietly in a corner of the room, under a shelf on which were displayed many china articles which I presumed to be Ming or something.

I pulled the set out and removed the rear cover. The fuse under the right side red cover had failed so I looked suspiciously at the focus control. "There was a spark and then the set went off altogether." That confirmed my suspicion. I replaced the fuse and rummaged in my bag for a focus unit (the long type with improved insulation). I found one and took it out of the box. "Oh" said the lady of the house, "look at the pretty elephants on that box." So I had to tell them what Stan had told me months ago, about Small Elephants and Mammoth Elephants. I could see they didn't believe me and I don't blame them.

As I was fitting the unit my shoulder caught against the shelf. There was a resounding crash as the china descended into the fireplace. I managed to catch one lovely plate in its plastic holder and handed it over to the lady. As I did so the plate toppled out and joined the others in pieces in the fireplace. "Oh, I'm so sorry" I mumbled, expecting to be attacked at any moment. "Don't worry" was the surprising reply, "they were only raffle prizes." Well I never. Most other people would have done their nuts, raffle or not. I fixed the focus unit and refitted the red cover. When I switched on a good picture appeared. We watched it for a few minutes to make sure, then I took my leave.

Smoke and Moans

A chap was waiting when I got back to the shop. He was tapping his foot and moaning his head off. "You repaired this set for me a few months ago, now it's smoking."

"It's not good for it you know."

"It's not good for me either" he groaned. "Paying out all this money. I paid you ten pounds for this set only six months ago."

"No you didn't. You paid me ten pounds for an e.h.t. unit to save replacing the line output transformer which would have cost a lot more." The set was a Ferguson Model 3840 (1690 chassis) which has an e.h.t. rectifier buried inside the transformer. We fix an external, shrouded diode in series with the e.h.t. lead and this restores normal working. It was the lead from the transformer to the diode that was smoking, running a bit too close to the heatsink. I unsoldered it and slipped a used solder mop cover over it. This held it away from the heatsink. Soldered it up again and the job was done, i.e. no more smoke.

"There you are sir. You can stop moaning now. Good afternoon. May you have many more male children and don't let them smoke." As I rolled myself a cigarette.

Other things and other places

Les Lawry-Johns

There's more to life than TV sets, though there are times when this is none too obvious. Anyway, I thought you wouldn't mind if for a change I told you about some other things and places.

The Coat

One of these things is my overcoat. It was made to measure in 1938 by M. Burton and cost 37/6d. For those of you who want that in present day money it comes to one pound thirty seven and a half pence (I think). That coat is as good as new and still fits. It's double breasted and waisted. I've worn it twice during the last thirty years, which all goes to show how many funerals I've attended. Not quite true that, because an overcoat isn't needed in summer. Jealousy will get you nowhere. Oh yes, black melton.

The Journey

Next places. A couple of weeks ago the phone rang during the evening. HB answered it. She sounded a bit excited and I heard her say "We'll come up and get it". Since her daughter Colleen was with us at the time she didn't say anything more about the conversation. After Colleen had left I was told all about it. Colleen had always wanted a small Dachsund and we'd sent out signals a month or two back in the hope of getting one for her birthday. One of the signals had now been answered: there were three puppies ready to leave their mother and we could have our pick. All we had to do was to hang up the Closed sign and pop up to Dersingham. Lovely, but where's that?

I consulted my AA New Book of the Road. It's just up from Kings Lynn, near the Wash. My eye wandered down the A10 to Ely, thence to Cambridge and Theydon Bois to pick up the M25 to Dartford Tunnel. Not far. Any idiot could do it with a full tank of petrol.

On the following Tuesday the tank was full, the oil was checked and we were ready to go. Colleen arrived at nine thirty and we were off. First to the Dartford Tunnel which is practically on our doorstep. I missed it. We circled round and after a slight detour through Bexley we got there. Never mind, we were on our way in my safe and strong hands. Straight up the M25 towards Theydon Bois, steer to the right and up the M11 and on our way to Cambridge. On and on like the brave six hundred my Grandad used to sing about. Harlow came and went, then Bishop's Stortford. Flashing along the motorway while other cars flashed past as though we were standing still.

Undeterred we fought our way up past Cambridge and on to Ely, my eyes like diamonds behind my new specs (first time wearing them for two years), though I must admit they were getting tired. King's Lynn loomed up and we went round a roundabout and took the A149 past Castle Rising on the left and finally hit Dersingham. By now the Ouse was ousing all over the place and had been

for some time: waterways to the right of us, waterways to the left. On we went, past the fish and chip shop, slowly now, looking for the flags. At last we found them and turned into our destination. A man was waiting at the gate. He'd been waiting for a long time.

HB jumped out and greeted him profusely. I was amazed. Then Colleen did the same. I got out and we shook hands like gentlemen.

"This is my Uncle Roy" said HB.

"Well I'm buggered" said I.

"This is my husband."

"Well I'm buggered" said Roy.

HB hadn't even said we were going to relatives.

Into the house where Roy's wife greeted us warmly. Colleen looked at the large box on the floor from which some whimpering issued. "Goodness, aren't they beautiful!" she cried. One had a black patch on its back. She leaned over and picked him up, then realisation dawned. "He's yours" we told her.

We had lunch and gossiped. I finished off my whisky and started on some wine. They'd a lovely garden where the birds were well catered for. While we were admiring its features we saw a bag containing a marrow and some beans being passed over the wall on a rope. Roy took the bag in and came out with a bottle of home-made wine. It was tied to the rope and pulled over the wall. Nary a word was said.

"Does that happen often?" I queried.

"Several times a week - the wife makes good wine."

"So I'd noticed."

By now it was almost two and I was beginning to wonder how long it would take to get back. So with Dacksy in a box and plenty of food for him we took our leave and departed, heading for King's Lynn. Somehow I took the wrong road and we went through miles and miles of country. There wasn't much sun but what there was I kept to the right of me so I knew we were going south. Eventually we arrived at Ely. HB glanced at the petrol gauge. "We're half empty."

I'd also been looking at it. "We're half full" I said.

We were well on the way to Cambridge now, but instead of bypassing it I found myself in the town centre. So many bikes, I've never seen so many. We went round the market square just for fun and headed out of town, eventually finding the M11. Down we hurtled while cars flashed by in the outer lane. The petrol gauge by now read very low. It suddenly occurred to me that there are no filling stations on these motorways. I didn't want to go off and get lost again; I also knew that an empty reading meant that there were still two gallons on board. But at the speed we were going they wouldn't last very long. So I gritted what teeth I had and slowed down. We crept along the M25 and under the Dartford Tunnel. Then along the A3 till we were able to fill up just three miles from home. We were glad to be back. Dacksy had slept all the way and even Douggie (Colleen's husband) likes him.

So much for the trip and its confusions. I don't know how ET manages it: from one end of England to the other about twice a week. But I'm not that bad at navigation. JAR gets lost trying to find his way from one side of London to the other (almost) on a good day with the light behind him . . .

Oven Problem (Microwave)

You remember HB's sister Dot - her with the brown eyes? Well Dot has a microwave oven with two bulbs in it.

These are in series which means they are rated at 125V (20W). One went so they both went out. HB brought the good one down so that we could match it. We couldn't. Not only because we don't have any 125V bulbs but also because the base is slightly larger than the normal SES.

So HB trudged around the town, getting the same

response. One shop assistant gave her detailed instructions on how to get to our own shop, which pleased her no end. Our wholesalers don't seem to have them either, so Dot's going to have to make do with a one lamp (240V) oven with the other lamp shorted out. If we can find a 240V lamp with that unusual base.

Return of the French Lady

Les Lawry-Johns

You may recall the French lady whose ex-husband taught Scottish rig workers how to swim (she said). She has another set now and it's giving trouble. A Pye 731 which also gave me trouble, mainly because I didn't want to carry it from her flat, round the square and out to the car.

The Pye 731

First there was intermittent sound which I thought was due to a dry-joint. It turned out to be a poor plug/socket connection. After getting this right the sound still wasn't clear – it sounded as if the speaker was rubbing. So I said I'd be back with another speaker as soon as I could. Shortly after I was back with a nice new speaker with a free floating cone and proceeded to fit it. She was nattering away and I vaguely heard something about the picture going off. With the speaker fitted the sound was fine and the picture showed no sign of going off. I tapped around but it wouldn't do anything wrong. So I left it at that.

Next day she phoned again and read out a long list of the times when the picture had gone off, apparently for very short periods and with no regular pattern. So I sallied forth again and this time managed to make the picture go off by applying pressure to the TBA990 chip on the decoder panel. I immediately resoldered every joint in the vicinity. After this I couldn't make it go off so I departed, thinking that that was the last of the matter. It wasn't. I had to return several times subsequently, replacing in turn the line output transformer, the BU208 line output transistor, the tripler and for good measure the 0.1 μ F first anode supply reservoir capacitor C563 (1.25kV). It was a nightmare and every time the phone rings I dread hearing that voice "allo, allo, this is ze French woman talking". And talking, and talking.

Mother-in-law's Set

A young fellow brought in this ITT hybrid colour set (CVC8 chassis) and said it belonged to his mother-in-law. I'd no idea whom he was talking about. The repair took some time as the boost capacitor had gone short-circuit (as usual) but had this time taken the PY500A boost diode and 56 Ω h.t. feed resistor with it. I did all that was necessary and wrote out the bill, charging fifteen pounds. A fortnight later all hell broke loose.

A voice which I vaguely recognised phoned to say that the TV set I'd "thoroughly overhauled" was giving trouble after being moved round the room. So I got the car out and nipped over to see what I could do. I was appalled when she opened the door. I knew her all right, and knew the language to expect. Talk about that young girl with the long blonde hair, she was a saint in comparison. Leaving aside the language, the woman was demanding to know why a set that had been "overhauled" so recently should give trouble so soon. She waved the bill in my face.

"Look at this, fifteen **** quid. You should be ashamed of yourself."

"If I'd known it was your set I wouldn't have touched it in the first place" I bawled back.

Anyway, she insisted that I saw the set working. The

picture was wavy and the colour was in bars. I thought that moving the set had disturbed a poor earth connection. It transpired however that the AD161 l.t. regulator transistor (left side) was leaky. I had one with me and it was in before you could say knife. The picture was now perfect.

"I wonder how long that will last. You people certainly know how to rob us poor ****s."

"Well this poor **** is going off now, having performed a miracle in front of your eyes. I don't intend to repeat the performance. Goodbye."

I got to the car while she stood at the garden gate waving the bill in the air and bawling about wanting her money back.

Beardy's Brother

I thought I'd seen the last of beardy and hope I have. His brother came in however, struggling with a 26in. TX10. The back cover was held on by Sellotape and I felt sorry for myself.

"This television you see, there's very little wrong with it. Just a little something that stops it working properly. I'll leave it with you and call back later when you've fixed it for me."

I switched it on and the tube's heaters glowed. Oh well, that's a start. He'd left the remote control unit and although I pressed the brightness button no raster appeared. The first anode voltage was low at about 200V. I smelt a rat – someone had been messing about. I turned up the first anode control until the voltage measured 400V. The raster was now present but with an aerial plugged in there was no picture. I checked the tuning but nothing could be resolved. The tuner was suspect but a new one had recently been fitted. So I turned my attention to the i.f. module. Fitting a replacement made no difference. Back with the original and out with the tuner, using a yard of desoldering braid because whoever had fitted it had been over generous with the solder. I fitted a new 1043 and got a picture that was very grainy. A.G.C. I thought, so I adjusted the small preset on the i.f. panel and it made no difference at all.

I thought the new tuner might be faulty and like a fool fitted another. Again no difference. The aerial socket may be? I connected a new one to the tuner, just hung it on so to speak. The picture was best with only the inner connected, the braiding left off. This confused me so I fitted another aerial socket which did the same thing. I left it for a moment to serve a customer who wanted to know why he was getting severe interference in the shape of another picture floating around on top of the one he wanted.

"Continental interference" we advised him. "Leave it alone and it'll go away."

When I got back to the TX10 I'd forgotten what conclusion I'd reached, and came to the conclusion I'd not reached one. I then injected signals into the i.f. module and found that the output was weak. So I refitted the new one. This restored normal reception and I wrote out a bill for a very reasonable (I thought) £20. I was prepared for a performance and I got one.

"Both these things faulty? One I can understand but not two. Are you sure?"

"Yes I am sure and it took me long enough to work it out. In any case I've only charged you for one."

"Twenty pounds is a lot of money. Can you make it fifteen?"

"I'll make it nothing" I snapped, tearing off the Sellotape that held the rear cover. "I'll put back your tuner and your i.f. unit and you can take it elsewhere."

"Oh no, no. I was only joking. Here's your twenty pounds. I never argue about money."

I refitted the Sellotape and off went beardy's brother, nattering away in a language I didn't understand.

Fidelity Portables

The 14in. Fidelity portables (ZX2000 chassis) are now using up line output transformers at a rate of knots. If you handle them you must keep a couple of transformers in stock, complete with the small subpanel that enables the newer type to be fitted to the older type of panel. A leaflet explains the steps to be taken – remove the focus unit and first anode control etc.

One came in the other day with the complaint that though it chattered away in various tongues it didn't show a picture. I didn't at first associate this with the line output transformer as the fuse usually fails when the transformer is defective. In this case it hadn't because the 10Ω, 2W h.t. smoothing resistor, in the feed to the line output stage, had gone instead. This left the chopper working and the supply to the TDA3190 sound i.c. intact.

Mrs Steadfast's New Set

Mrs Steadfast has bought a new Fidelity from us. She complained because it didn't have a carrying handle and I complained because of the tuning arrangement. It has three buttons at the rear: up the scale, down the scale and store. It would have been easier if these had been at the front or on the side. It's easy once you've had a bit of practice however. Her old set, a 26in. Swedish monster, had to be carried out through the door, along a corridor and into the back room. I did it alone, though there was a male who didn't lend a hand present. I'll remember that Harold: the set was very heavy, and me in my condition. But I didn't complain. I never do.

Whatever Next?

I had a shock the other morning. I got up fairly early to let the dog out and was pottering around in the kitchen when I heard a knock on the shop door. There was a large van outside, with Sheepless Nights on the side. The man at the door asked whether it would be all right to bring the bed in.

"I haven't ordered a bed" I said.

"I did" came Honey Bunch's voice from the toilet.

So in came this great big bed, which she assembled later in the day, and out went my nice comfortable favourite.

As we sat there that evening H.B. asked why I was knocking back the whisky (Cutty Sark this time).

"So I can face getting into that high, firm monster in there" I growled.

"We'd had that old one for twenty years. It had a dip in your side and was all misshapen."

So we went to bed and had a good night's sleep, much to my surprise. New bed – what next?

Thanks Denis

Les Lawry-Johns

Some months back (January) I mentioned a Network colour portable – Model NW1414, fitted with the Grundig GSC100 chassis. The original fault was that the fusible resistor R607 in the start-up circuit would go open-circuit for no apparent reason. Resoldering it restored normal operation, and despite my suspicions nothing showed up during a prolonged soak test. Network's service manager Denis Mott subsequently got in touch and provided some tips. He drew my attention to his article in the September 1984 issue of *Television* and said that the set would come back to me. Well it did, after some months though.

This time I followed Denis's suggestions and also checked a number of other things. No fault could be found. I eventually resoldered R607 and everything was lovely for a day and a half. Then it pinged again and we started replacing components en bloc. The result of this was that the set refused to come on at all when R607 was resoldered. My language was deplorable and Zeb went away and hung his head. Spock jumped up on to the highest shelf in the shop. Honey Bunch was out so she didn't have to hear it. Suddenly I stopped swearing. This is what we'd wanted in the first place, a fault that was there all the time. Unless I'd put it there when replacing various resistors and transistors. Supposing one had been defective? But I'd tested them all before fitting, as I always do. So I put this thought out of my mind and started a general check.

The line output thyristor, which had checked all right during previous tests, was now open-circuit between its gate and cathode. It should record about 30Ω one way and about 200Ω the other, with no reading between the anode and the other two electrodes when disconnected. Now it showed no reading at all. It was speedily replaced: the set worked for the rest of the day and the week that followed.

The Blind Comes Up

A chap staggered in carrying a 26in. Ferguson set fitted with the TX10 chassis. He explained that after about an hour's use a blind came up from the bottom, leaving just a few inches of picture at the top with the rest of the screen blacked out. I'd never heard of this one before.

I let the set run for some time, not really expecting anything to happen as the shop is a lot cooler than the customer's home. Then I removed the back cover and brought the hairdryer into action. I directed hot air at the field output transistors and the surrounding components. When I lingered on the TDA1044 chip the bottom of the screen blacked out and the blind rose until only the top few inches of picture remained. I grabbed the freezer but with the heat off the blind came down again and a normal picture was displayed. Again I heated the chip and again the blind rose, only this time I was ready with the freezer and the blind came down as soon as the chip was cooled. I didn't have a TDA1044 in stock so I looked under it to see what the ventilation was like. As there wasn't any near the chip I drilled a hole to let in some air. I explained to the chap what I'd done and mentioned that the TDA1044

would be here when the blind came up again – if it does come up again.

The Bush BC6004

Shortly after our second encounter with the Network set a Bush BC6004 colour portable came in. Another German chassis, this time manufactured by Saba. The customer's complaint was that it would be fine for an hour then shut off! It's the set with the small enclosed unit at the top right containing the line output transistor (BU208), line driver transformer etc. I changed the BU208 and the set worked fine for the best part of an hour. Then it shut down again.

I tapped the BU208 with the handle of a screwdriver, more out of frustration than anything else. The set then started up and shut down after an hour. This time I moved the line output stage housing cautiously and the set started up again. So I took the housing out of its socket, having removed the two screws, and carefully resoldered all the input joints – though none looked suspicious. I then touched up any other joints that looked the slightest bit shaky and refitted the unit. It played away for the rest of the day and as far as I know it's still playing away quite happily. I wish I was.

GEC C1404H Series

These 14 and 16in. portables are made by ITT in W. Germany, using the CVC1110/CVC1112 series chassis. They suffer from a common fault: a bright white screen, suggesting that the tube's cathodes have lost their bias. The RGB output transistors with their $12k\Omega$ collector load resistors are mounted on the tube base panel. No voltage will be found on these resistors. The source of the 150V supply is the line output transformer: the series-connected rectifier diodes D504 and D505 are on the right side of the main panel. There's a small surge-limiter resistor in the feed from the transformer, R514 (1.5Ω). It looks very small and is intended to be, acting as it does as a fuse. It doesn't burn out for nothing. The cause could be leakage in the diodes or in the associated $10\mu\text{F}$ reservoir capacitor C506 or the $1\mu\text{F}$ smoothing capacitor C1002 on the tube base panel. Occasionally one of the three RGB output transistors may be at fault, but this doesn't happen very often. Then of course it may be the tube...

This and That

The editor must be taken to task for a couple of mistakes that got into my column in the June issue. First about my overcoat. I said it cost 37/6d made to measure, also that this works at one pound eighty seven and a half pence. In print it said one pound thirty seven and a half pence. I also said that we filled up with petrol on the A2 just a little way from home. This came out as the A3, which is a long way from home. Oh well, I suppose we can't all be perfect...

It amazes me what Honey Bunch gets given to her. Boxes of chocolates by the dozen (we don't eat chocolates but Zeb does, so does her aunt). Last Sunday lunchtime we were in Dave's for a drink and H.B. happened to mention that she hadn't had duck's eggs for years. Next day one was brought in. I haven't had (given to me) a bottle of whisky since Christmas, and I'm not likely to till next Christmas. It won't be long now however. This year has simply rocketed by.

June's Daughter

Les Lawry-Johns

You may recall me telling you a while back about a frustrating call on June, when her dog Piddler pinned me to the floor and was about to tear my throat out just before he recognised me. Well, her daughter got a relative to bring her set down to me and carry it in for her. It was a large 26in. ITT set fitted with the CVC5 chassis. Yes, an oldie – but in good condition. The report was that the picture went off but the sound stayed on.

I switched it on and when it had warmed up my neon glowed when brought near the PL509 line output valve. So the line output stage was active, but there was no sign of a raster – or sound for that matter. I tested this and that and when I checked the voltages in the sound i.f. stages dance music blared out.

"There you are" said June's daughter.

"That's radio music" I growled.

The same music came through when I was checking the final vision i.f. transistor and this suggested to me that the fault was in this stage. Now most of you know how difficult a fault in this section can be. I switched off and cold checked the BF123 transistor (T17). I couldn't get any readings from base to emitter or base to collector but I wasn't sure where I was in the confined space. So I reasoned (?) with myself. If the BF123 was open-circuit, I could hold a BF197 across its contacts as a check. Switch on again and allow the set to warm up. Sort out a BF197 and hold it in position, base to base etc. True TV sound burst out and a picture appeared on the screen.

"There it is" screamed June's daughter.

This scared me (women's voices do) and I withdrew the BF197. The sound and vision continued and I gave a sickly smile.

"Aren't you clever?" said June's daughter.

"Aren't I?" I agreed, wondering what the hell had happened. Tap the vision i.f. stage and move it about a bit. The vision and sound continued whatever I did. Pull the aerial out and switch off.

"We'll put the back on and pretend it's finished. Then we'll switch it on again to surprise it. That's what we'll do." And that's what we did. The picture was now grainy and horrible though the sound was o.k.

"Bloody tuner's up the creek" I bawled. "It wasn't a minute ago." So off came the back cover and I moved the tuner about a bit. A lovely picture came on then went all grainy again.

I removed the covers and laid the tuner on its side. Resoldering the r.f. amplifier transistor's base and emitter connections did the trick. After that it wouldn't go grainy again. We put the rear cover back and tried again. It was still all right. So they took it away, after I had warned them that the sound and vision could fail again at any time as I didn't trust it. The set hasn't been back so I suppose it's still all right. But what brought the BF123 to life – if indeed it was faulty? Perhaps it's me that's faulty? I can imagine E.T. chuckling away down there in Sussex. "Yes, it's you who's faulty Les!" Well I know I'm silly but the inspector of taxes had my books last year and couldn't fault them: there's not many can say that! And I did check the soldered edge connectors, so there.

You'd think the way I natter on that I don't have any real troubles. No so. Take the Thorn 9000 that came in the other day for example. I put a new tripler in it last week and this week it came back with the report that it was "no go – probably the switch". It wasn't the switch of course and there was plenty of h.t. at the collector of the R2540 Syclops transistor. I moved over to the line driver transistor and found that there was only 12V or so at its collector instead of around 150V. The same voltage readings were obtained at its base and emitter. Like a fool I dallied around the subpanel for a while, finding wrong voltages all over the place, also aware that I'd had this trouble before and had solved the matter in minutes. At last I listened to the voice in my head. It kept saying "thick film unit".

I got one off the shelf and fitted it, telling myself that it wasn't going to help matters. When I switched on again the e.h.t. rustled up. I knew it was going to be the thick film unit all along of course. It's just that I like to give myself a bit of exercise every now and again.

The Family Dawe

I've mentioned the brothers Jack and Owen Dawe before. I've just discovered that there's another. Ray. I couldn't believe it. All I can say is that their parents must certainly have had a sense of humour.

Ray said he had a set that didn't like odd numbers. We asked him what it was. It turned out to be a Ferguson set fitted with the TX10 chassis, and it wouldn't select channel one – or three or five etc. "You've a duff chip" I told him, hoping I was right.

He brought the set in and sure enough a new SAA5012 remote control receiver/decoder chip restored normal channel selection. Peace was thus restored in Ray's household. He'd altered the selectors so that 2 gave BBC-1, 4 gave BBC-2, 6 gave ITV etc. but his wife had said that interfering with the set would bring bad luck. She was right.

After we'd replaced the chip and reselected the programmes the set worked for one day then gave up. He brought it back and we investigated. I lowered the rear, i.f. panel and the set behaved itself, showing a nice picture and producing nice sound. I raised the panel and it lapsed into sullen silence. Feeling a bit annoyed I lowered the panel again and everything was all right. Inspection showed that the cable loom was subject to pressure from the i.f. panel when it was raised and that the insulation had punctured. Only a slight movement was required to put the cableform out of risk. I seem to remember having had this one before, but such is the state of my deplorable memory that I can't recall when it was. The set now functioned correctly however and Ray had to face his wife . . . "I told you so" she said.

This and That

Stan from SEME had popped in to take an order. He also wanted to know if I'd seen Ray Ling the Chinese fence. Daft, isn't he? Shortly after he'd gone a nice couple popped in to say hallo. They were from Blackpool and being in the area had decided to run Les to ground – they're regular readers. Thanks for calling, Chris and Jill. Hope to see you again sometime. Also hope you weren't too disappointed. I did get that set done. Can't remember which one it was, but I was in a bit of a dither over it for a while.

Dogs can Fly

Les Lawry-Johns

They say that pigs can't fly. Well dogs can, and Zeb did last Saturday night. We were in the lounge above the shop and I was nodding off as usual, having had one or two. Now over the shop front we've an awning to keep the sun off the windows in the summer. There was a sudden commotion outside and Honey Bunch raised a window to see what it was all about. Two chaps on the other side of the road were shouting and shaking their fists at the world. They saw H.B. and shook their fists at her. Zeb was watching and didn't approve of this. In a flash he leapt out of the window, on to the awning and in one more mighty leap he was across the road, confronting the lads with bared teeth. They didn't hang around after that and the next job was to get Zeb back. He came in and bounded upstairs with tail wagging to prove that his incredible flight hadn't hurt him. The two fellows weren't the only ones to get badly shaken. H.B. and I were as well at the thought of what could have happened.

First Ordeal

The reason I'd been nodding off was partly because the whole day had been horrible. It started first thing in the morning when a Ferguson TX10 was brought in. I started on it right away, removing the rear cover and checking the supply to the right side fuse. Nothing. So I checked the plug fuse and the continuity to the on/off switch then to the right side fuse. Everything was in order. I then realised that I hadn't plugged in the bench supply.

When power was applied to the TX10 the sound came through loud and clear but the LED on the tube base panel didn't light up. There was e.h.t. so I concluded that the trouble was on the tube's base panel or the supplies to it. The voltages were present however and the tube's cathodes were high. The LED had failed. I looked for one but couldn't find any. My ordering had gone wrong. Stan from SEME was at fault for not reminding me. I won't forget to have a go at him. But what to do? We want a voltage drop of about 3V. I stuck in a 75Ω resistor and got this, but there was still no raster. I checked the transistors on the panel and came to the conclusion that one of the BF460s was leaky. Once again I couldn't find one, so in desperation I fitted a BD410. This worked and I got a nice picture – for ten minutes. Off it went and I pondered. The BD didn't have the slope, so it had to be a BF like me. I fitted a BF338 with a heatsink. Good enough for the G8, good enough for the TX10. It worked all day and was collected at five o'clock.

The ITT CVC32

The next horror was an ITT CVC32 with no field scan below the centre line and only about three inches of picture above it. I dived for the field output transistors and found one with funny readings. After changing it I expected to have a full field scan. It remained as before, with nothing below the centre line. I tried a new field timebase subpanel but this made no difference. I checked all the electrolytics associated with the output stage, then

carefully checked the subpanel above the scan coils. They were without fault. Further checks of just about everything relevant still produced no result. The scan coils were the only thing left. They measured all right but I still suspected them. The set is still here, standing around doing nothing because the customer won't accept the estimate for fitting a new set of scan coils. I'm waiting to find a yoke somewhere.

The GEC C2110

My next failure concerned a C2110 series GEC set. The complaint was that the set would work perfectly for hours, then suddenly roll and following this produce a bright blank raster. It didn't do this for me. The picture rolled and pulled for a short period before going bright cyan, i.e. red remained normal but the tube's green and blue cathode voltages both fell. Investigation showed that the 12V line was missing as the spring-loaded resistor on the right-hand side had pinged open. As soon as this was soldered back the picture returned to normal for another few hours. I changed the field scan panel, also the audio panel in case it was loading the 12V supply. No luck. The screen became bright for a few seconds before the resistor pinged open again. I looked for a video panel but couldn't find one. In fact I'd had this set for some days as the owner was away. He came and collected it on the Saturday, showing no surprise that the cause of the fault hadn't been located. I suggested he took it to Geoff in Moon Lane. He did but wouldn't accept the estimate Geoff gave him. Where it went after that I don't know – unless he uses it for only a couple of hours at a time.

Pye Portable

Our next case was a Pye colour portable fitted with the Philips CTX chassis. The mains fuse had shattered and there were open-circuit tracks to and from the bridge rectifier. This had gone short-circuit and the 4.7Ω surge limiter resistor had gone open-circuit. I fitted a KBL08 bridge, a new fuse and a 4.7Ω resistor and wired across the open-circuit tracks. The set then came on but was tripping. Investigation revealed a short-circuit diode in the line output stage. Question: why did the diode fail with the minor explosion the customer reported? Any ideas? I kept the set on test for a day or two as a precaution.

Barry's Sanyo

Barry, a friend of mine in the CID, asked me to have a quick look at his 26in. Sanyo colour set. Now sets from the far east frighten me so I don't normally take them in and I don't keep spares for them. I said I'd have a look however and I did. Not so far eastern as it turned out, probably made in Sanyo's Spanish plant. The fuse was shattered and the BUY69 chopper transistor was short-circuit. The switch-off thyristor was open-circuit – it's the discrete component version of the Siemens self-oscillating chopper circuit. I put in a BU326 transistor and a BT116 thyristor. With a new fuse installed I confidently switched on. Nothing. The BU326 wasn't being switched on. Everything was in order in the start-up circuit so, not having experience of these sets, I carefully put the shorted BUY69 and the thyristor back, refitted the blown fuse and suggested to Barry that he took the set to a cleverer chap than I, such as Geoff up Moon Lane.

"Ha!" said Barry, "I'm going to tell that magazine you

write for you're not the clever fellow you tell them you are!"

"Don't worry – they know it already!"

The Last Ordeal

I thought that the misery must be over. It wasn't. A couple I know quite well brought in a 20in. Fidelity set.

"It's gone dead. Someone's had a look at it but said they couldn't get the chip." Apparently it belonged to their son.

I whipped the back off and was confronted with an early ZX2000 chassis. Tapping the line output transformer I commented that "this is the weak link in these sets". I connected the meter to its feed resistor and got a short-circuit reading. "Instant diagnosis" I smirked.

I gave them an estimate and they popped off to consult their son, promising to phone within the hour. I thought I'd make sure and removed the transformer – no easy matter. It was shorted so I took a 3000 series transformer off the shelf and fitted the little base panel so that it would fit the 2000 chassis. I fitted it nicely and removed the focus

and first anode controls from the tube's base panel, wiring the leads from the transformer directly to the base panel as the controls are on the transformer (in case you didn't know).

I fitted the e.h.t. cap and switched on, expecting to hear the rustle of e.h.t. All I heard was the h.t. humping unhappily. I looked closely at the panel and found that the 10Ω h.t. smoothing resistor had been removed. I'd made the test from the 4.7Ω resistor between the 10Ω one and the transformer. Clever me. So I fitted a 10Ω resistor and switched on again. Hump, hump.

I then checked more carefully and found that the previous repairer, not suspecting the transformer, had had a good go at the h.t. supply and that the circuit now didn't agree with the circuit diagram at all. At this point I lost patience. I removed the new transformer, refitted the old one and the controls and wrapped it all up just as I'd found it. When they phoned I told them it had been messed about with and that I hadn't the patience to sort it out. Sorry readers, very sorry – but it was late and I wanted my bath and a drink. I had both and then had to put up with a flying dog. What a life.

The Barefoot Contessa

Les Lawry-Johns

Not long since H.B. decided that our Alsatian Zeb was lonely. She enquired around and located a suitable friend for him in the Medway towns – a three-year-old German Shephard who had had puppies and had been seen to . . . One of her puppies lives a few doors from us and was on heat. It had been sitting on her owner's lap, which by a chain of events led to some problems. Her owner offered to accompany H.B. to pick up our new dog you see. As H.B. was driving, the new dog ("Duchess") sat on the lady's lap during the return journey. The arrival home was spectacular. As Duchess trotted in through the door Zeb caught what he thought was her smell and went mad. There was a monumental struggle, with TV sets toppling over everywhere and me losing my temper over this unseemly mess.

Zeb's sense of smell is more acute than I thought, but it didn't take long for him to realise that his attentions were unwanted. We very nearly have peace now but their boisterous playing seems to continue nearly all day long and completely upsets my dubious ability to think straight. Being of German descent I felt that the new arrival must be a Contessa rather than a Duchess – so Tessa she is. The few customers who came nowadays tend to get a shock when confronted by two such large hounds, but at least their sets are assured of protection.

The Hitachi

A friend of mine lumbered in carrying what appeared to be a 22in. colour set. I saw the name Hitachi and started to make excuses.

"It's my mother-in-law's, Les. Just have a look and see if you can get rid of all that green."

I guessed that the tube was at fault but thought I'd make sure. He left it and in due course I took the back off, expecting to find an ordinary in-line gun tube that needed reactivating. The more I looked at it however the more confused I became. There was a single first anode supply, which is normal. It read correctly. I looked for the red cathode and found two pins marked RK on the left-hand side, two marked GK at the bottom and two marked BK on the right. The voltages on all these pins read the same, so the tube seemed to be at fault – there was brilliant green with very little red or blue.

Not realising what I was up against I looked for a common heater to connect the reactivator to. I checked the GK pins with the set switched off and got the reading I expected. I then looked for a grid pin and found two earthed. So I hooked up to this earth and to the pin marked RK and applied the heater voltage to the GK pins. There was a funny noise and the heater lit brightly. Heater, not heaters. I disconnected the reactivator and tried the set again. The picture came on immediately but was in magenta (red and blue) with no sign of green. Mind you, it looked a lot better than that green picture, but it dawned on me that I'd damaged the green emission. I studied the base more carefully and realised that each gun had its own heater supply, hence two pins marked RK etc. The cathodes are in fact the heaters and I remembered reading in the magazine some years ago about this unusual Hitachi tube. Why hadn't I remem-

bered earlier? It would have needed a new tube anyway . . .

Another One

Shortly after this episode a nice couple came in and said they wanted help with their TV set which they couldn't bring in. I enquired about the make and the nature of the trouble. An Expert they said, the fault being that the top of the picture came down and went back up every few minutes shortly after switching on, the display eventually settling down. Memories of my friend's GEC-Hitachi set came back to me. Remember the elastic band that wasn't successful? I'd eventually had to take out the thick-film field output module and resolder all the contacts. In this way we gained the upper hand. I guessed that the Expert was actually an Hitachi and promised to nip over and solve the problem the following morning – only hoping that I was right.

I went, I was right, and I did it. What a clever boy! Incidentally these sets have the transit screws in the back cover in the same way as the TX9 etc. This makes removal of the cover a bit of a puzzle when you're used to dealing with sets that have been serviced before and don't have the screws fitted.

Sad Tales

Another 26in. ITT colour set fitted with the CVC5 chassis caused me a nightmare the other day. The complaint was intermittent or no colour. I had to call at the house which was well out of town, so I resolved to do it there rather than bring it back to the shop. The colour came on at first. It then went into bars and faded out, leaving a pleasant monochrome picture. I tried another channel. The colour was again present but then vanished as before. Maybe the colour reference oscillator preset R311 was out of adjustment? I tried a new setting, but no luck. I tuned in the channel and the colour briefly appeared. In a nutshell I checked every likely item on the decoder panel. Nothing seemed to be at fault and all the voltages were as expected, changing only when the colour faded. I overrode the colour killer and faint bands remained despite adjustment of R311. I shunted the crystal and adjusted the relevant cores. Nothing doing.

Eventually I took it back to the shop, having struggled through the house and down the garden with this heavy set. Back at the shop I again tried to hold the colour and found that it faded before it reached the decoder. I checked the i.f. panel but this seemed to be in order and correctly aligned. Time was slipping by and so was my patience. I suspected the channel selector unit which can cause signal problems but decided to return the set to the owner with the recommendation that he took it to one of the brighter boys in the neighbourhood. I ran away feeling very ashamed of myself.

Back at the ranch H.B. told me that an acquaintance, an ex-TV engineer, had taken his own life. He'd lost his wife some months earlier and had been very depressed ever since. This completely deflated me and I've yet to recover. I know it happens, but even so . . .

Tiny Tim's Nightmare

Les Lawry-Johns

Tim felt very sad as he sat at his desk, swinging his little feet under his stool – as he had done some two years ago, hoping for a new pair of shoes. He had got some shoes then. Now it was a different matter. The half yearly clutter of bills demanded his attention: hundreds of pounds that would put him back in the red again, and he had only just got out from under the last lot, at a cost.

Why didn't these people realise who they were demanding money from? He fought his one man battle against inflation with extreme dedication. He didn't charge a lot for his services, much the same as he had done years ago. Then he had been rich and could dine out several times a week and drink the best wine. Now he couldn't afford to go out at all, not even once a week at Sunday lunchtime. He and Tinker Bell used to pop into the pub for an hour or two on Sunday and spend his whole week's wages. Now his wages buy a couple of bottles that have to last the whole week while he and Tinker Bell watch TV – and occasionally a film on the video to ensure that when they pass it or them on to Tim's brother he won't get a heart attack. Tim's brother has a very bad heart, much worse than Tim's, and the sight of all those young girls panting away might upset him. Tim didn't think they panted because of the fellow who was standing nearby. More at the thought of the money they'd be paid to pant. And why do they keep kissing their fingers? They must love themselves a lot more than they love the fellow who just stands around. I wonder what he gets paid for? Tim wondered whether anyone would pay him to stand around while...

The Collection

Just then a lorry pulled up outside. It had a load of junk in the back and Tim guessed who it was. Tim the Tinker had come to collect his small portable. He came in and Tim handed it to him.

"What was wrong with it then?"

"I've written it all down on the bill sir."

"I can't read."

Tim's mind (our Tim) raced. If he couldn't read, the bill could be upped a bit. Instead of eight pounds fifty he could charge fifty quid.

"Ten pounds" he said.

"It says eight pounds fifty down here."

"Just testing your reading, just testing you see."

"I can read money, don't you worry about that" said Tim the Tinker.

So he paid his eight pounds fifty and walked out. Tim heard him say to the other chap in the lorry "tried to con

me, the twisting old B...". Tim felt ashamed of himself. What a nasty fellow he was.

Visit from Keith and Alex

Keith and Alex had come up from Portsmouth mainly to bring me a set of scan coils – you remember the CVC32 (October)? I was so grateful, though I didn't actually need them. I'd already got over the trouble by replacing the scan coupling electrolytic which I'd previously shunted as an inadequate test. As the faulty one was leaky it had to be taken out and a new one put in. Silly me.

Keith gazed around and Alex gazed around the other way.

"Just as we imagined it would be. Beyond belief."

"Sorry, very sorry" I apologised.

"No, we didn't mean it's old fashioned or anything like that. It's just that it all fits into place. The awning outside where Zeb jumped out and earned undying fame, and the inside with all the bits and pieces. It's nice really."

Keith was the one who wrote that first letter (June) about the lack of test cards.

"You'll have to get up earlier" I suggested.

Alex was admiring our till. "Right out of Coronation Street" he commented.

"It's easy to fiddle" I said, "and I like it."

A chap came in for a universal tripler and Keith showed me where to find it on the shelf. The chap wanted to know how to fit it in an ITT CVC32. I explained how to connect the leads, joining the diode and earth leads together and soldering them to one side of the focus control. The chap went out with the diagram I'd drawn for him and Keith commented that it wouldn't last long with the leads joined. I wondered why he said that. I always join them. Am I doing something wrong? When I say always, I mean in the ITT and similar sets.

Anyway they departed in high spirits and I wonder if I'll see them again. All the best. Keep the flag flying and all that sort of thing!

The Siemens Set

A 26in. Siemens set came in the other day and I couldn't make head or tail of it. A new line output transistor was required and the chopper circuit had been tampered with. The line output transistor is a BU600S, which I didn't recognise at all. I tried a BU208A but this didn't work and the open-circuit tracks to the chopper unsettled me. I suggested to the chap that he took it up to Geoff. He did, and Geoff had to suffer too.

Next day Geoff phoned to tell me not to send any more lunatics up to him. He also told me that the correct replacement would have been a BU208D. I keep these in stock and kicked myself for not having tried one.

The joke is that another set of exactly the same type came in an hour later and I was able to oblige my friend

by fitting a BU208D in a couple of minutes, with complete success – the resultant picture was superb. Nice sets these, though the chopper circuit does frighten me a bit. I should read the magazine more thoroughly.

The Cummin of Keith

As I was busily shovelling up what the dogs do in the garden (concrete) I heard Tessa barking her loud, deep bark in the shop. Zeb doesn't seem to bark so much now that the bossy female has taken control. I went in with the shovel of you know what and found a man standing in the shop.

"Won't be a second" I said, "I'll just bung this lot down the toilet then I'll be with you."

"Don't worry Les, you look as though you've a lot on your hands".

I knew that voice, and the Casablanca image. It was Keith Cummins himself.

After I'd disposed of the er stuff we had a chat about this and that and whilst he drank the coffee H.B. had made him (sugar, no milk) he told me about the job he was engaged on. Some sort of secret service matter, which is why he told me all about it. Thanks for calling Keith.

Whatever Happened to Tiny Tim?

Sorry I've been rabbiting on about myself as usual. Actually Tim was put to the test this last Saturday afternoon. He was standing behind the counter talking to young Phil, who pops in on Saturdays to pick up a few tips and dodges. A smart young couple came in and asked Tim if he would mind looking at their set. Tim said he didn't mind looking, went outside to their car and did just that. It was a Grundig set of the 5010 variety. A big 26in. monster. Phil came out to help, and they all struggled in with it.

"There's sound but no picture, and some things have burnt up in the bottom."

Armed with this information, Tim removed the rear cover and swung down the chassis. He noted two burnt out resistors at the bottom right. They appeared to be connected to the tripler. Tim's ice cool brain began to function, under the gaze of the young lady whose amused smile showed that she didn't think Tim knew what he was doing. Tim held his neon near the line output transformer and it lit weakly. He switched off, removed the feed to the tripler, and switched on again. This time the neon lit brightly. Tim announced his opinion.

"The tripler has failed and has burnt out the resistors in the beam limiter circuit."

The circuit was folded up inside the set. Tim removed it and gave it to Phil to check on the resistors. He then went over to the shelf and selected a universal tripler.

"Do you want me to fit this and replace the resistors?" he asked.

The girl still smiled. "Do you think that will do it?"

"Yes dear, with a bit of luck, and provided the transformer hasn't been damaged" said Tim as he fought off the urge to smack her bottom.

"O.K. then" they agreed. Tim fitted the tripler carefully and wired it up. In the meantime Phil had found the resistors and Tim fitted these as well. He switched on and a lovely picture appeared on the screen. The girl's smile faded and Tim was glad.

"Pay up and take the thing away" he said crossly.

They did and Tim and Phil drank their coffee, relieved that the Grundig hadn't wanted more doing to it.

Tiny Tim's Testing Time

Les Lawry-Johns

Things had been slack for some months and Tim was beginning to get used to it, even to like it. Except for the bills that kept coming in.

Then, last Friday, the avalanche started. The first one came in at nine o'clock.

"I'm just off down town. Be back in half an hour. Don't want to spend more than ten quid. Ta Ta."

Before Tim could say "...off" the chap had gone, leaving neither his name nor any other information. So Tim wrote PIG on the sheet and started to lift the set on to the bench. Another car then pulled up outside and a bloke staggered in carrying a 26in. Bush set of the Z718 variety. He panted out his name and address and Tim felt sorry for him. "Call back at lunchtime" he said, after being told that the screen kept going blue before the tuner selectors failed. As the chap went out someone else came in. A music centre this time. None of the lights lit, one side was dead and the stylus was broken. Tim's eyes noted the Shure cartridge.

"Call back on Monday."

"But we want it for our party tonight."

"I'll try but can't promise."

Tim put the jobs in line and was about to start on the first when a woman came in with a white portable of the Thorn 1690 variety.

"I can't stop and talk about it. I want it for Sunday and the only time I can call to collect it is on Sunday morning at about ten o'clock. Do whatever needs doing. Bye for now."

She trotted off before Tim could say a word. His Sunday had gone for a Burton as usual. Oh well, mustn't moan.

Minutes later a large ITT FT110 was brought in. "Picture's very dull and it won't respond to the contrast."

Tim's mind said "beam limiter", but he didn't actually say anything. He didn't like the FT110, mainly because he'd not done a lot of them. And he couldn't remember how the beam limiter worked. But he knew the owner quite well. "Phone me tomorrow and I'll tell you all about it."

Left alone Tim started on Mr. Pig's set. It was a Pye CT200. He hardly had time to note the smashed tube base when another lady came in.

"Would you lift my record player out of the car for me?"

Tim went out to the blue Volvo estate and noted what appeared to be a radiogram standing in the back. It was one of the large, old HMV ones. A record player indeed, with a Garrard unit, twin speakers, etc.

Tim lifted it out while the woman chattered. "It was going all right except it wouldn't play the records right through, then it went dead. I said to my husband I don't want you mucking about with it, I'll take it to that little man down the road. They say he can do things all right and doesn't charge much. Not like some of these people do nowadays and you don't know what they get up to, do you? I think it's all wrong that people should take your things and interfere with them like they do, then charge you through the nose."

Tim put a tenner on the bill right away but he didn't say

much. "Pop in tomorrow" he suggested.

"Oh dear, I'll have to do without my Mozart tonight" she moaned. Tim took her name etc. and off she went, talking away to herself nine to the dozen.

The Pye's Problems

Back to the Pye. After a bit of a struggle Tim repaired the tube base socket and refitted it. When the juice was applied the heaters lit. There was a blurred raster and Tim realised he'd left the focus lead off. With that refitted the raster could be resolved but there was no picture or sound however much he fiddled with the tuner selectors. So he went down to the rear left side where the tuner joins the i.f. gain and filter unit. He removed the latter and resoldered all the contacts, noting that the one from the tuner had a track crack. Ah ha! This done the sound boomed out and a grossly misconverged picture appeared. This was attended to and he was left with a nice teletext message wishing him a pleasant day. Hardly had he finished when the owner appeared.

"Ah Mr. Pig, your set's ready after all."

"Name's not Pig, it's Sty."

"Nearly right sir."

"Actually I was only joking about calling back for it in half an hour. I've been told it's beyond repair. Thought you might give me a chit to that effect."

Tim got a bit angry. He switched the set on and showed the Sty man.

"Good lord, as quick as that. You must be a genius."

"I am but I don't let it show" said Tim modestly. He wrote the bill out and handed it to the Styman.

"Heavens. That much for such a short time?"

"Cheap for a genius, sir."

So off he went and Tim was left wondering. The set had been knocked over or off, and seeing the broken tube base someone had assumed that the tube was cracked. Oh well.

The Big Bush

Tim next turned to the big Bush. He soon found that it was a nightmare. First he took the tuner out and renewed the plastic nuts - one of the four had cracked open and was jamming the channels, as the blue ones do.

With the tuner refitted he could get a picture and was better able to see the effect of the blue flashing. He went over the blue drive from the TCA800 chip to the driver and output transistors and found that the voltages at all points varied with respect to the red and green channels. The most marked variation was at the collector of the blue output transistor.

Removing all three c.r.t. drives should have left a blank screen. It flashed blue. Tim's diagnosis was immediate and wrong. A heater-cathode short-circuit in the blue gun he thought. So he carefully removed the heaters' chassis connection and wired a resistor between the blue cathode and the heater. No change. It then dawned on him that the short-circuit was between the grid and cathode. His muddled mind recalled the adaptor he'd invented years ago to deal with a grid-cathode short in a tetrode tube by

shorting the grid to the cathode and transferring the drive to the first anode. "All right with a monochrome set but you can't do that with a colour tube with its three guns, you fool" he scolded himself. The things that go through your head when you're faced with a problem. Tiny Tim's trouble is his tiny mind. Not like you lot out there.

But he had to make up his little mind. He'd render the blue gun inoperative. He disconnected the supply to the blue gun's first anode. This left a slight blue haze in the centre. It wouldn't worry anyone but of course the picture was only a pleasant red and green, with no blue apart from the faint glow. The owner didn't complain and said he's seen enough blue to last him a lifetime . . .

Ribald Club Strikes Again

Next on to the bench was the FT110. Tim surveyed the displayed picture and again thought to himself "beam limiter" – and remembered that he'd been proposed as president of the Ribald Club (removal of beam limiters). He studied the tripler and its earth return circuit, then checked all the components here. Each one checked out perfectly so he moved over to the left-hand side and studied the transistors concerned with beam limiting – three of them, T212, T213 and T214. He checked these and the associated components – quite a few of them – and again each one checked out all right. He then removed the front panel to ensure that all the connections were good and that the controls were working. He refitted the panel and injected signals here and there from the final i.f. stage to the luminance delay line. The signals were lost somewhere between the distribution amplifier stage T211/T206 – the stage that provides separate feeds

to the a.g.c., luminance and chroma circuits – and the luminance delay line. The beam limiter transistors act on the distribution amplifier stage and Tim found that the voltages in the beam limiter circuit were wrong. He got more and more confused and after an hour or so he did something very naughty, he shorted out the first transistor in the beam limiter circuit, T213, by linking its collector and emitter. The picture was immediately restored to normal. He removed the short and made further investigations but still couldn't find anything wrong. He finally lost his temper, shorted T213 again and left it shorted. Ribald indeed.

Tim's Audio Department

He now turned his attention to the record player and heaved this on to the bench. On moving the pickup arm over towards the centre he found that it stuck before it got there. This was an old one indeed (the fault, not the deck). He took the turntable off and freed the small swing arms on the toothed wheel, removed them and cleaned the centres with easing oil. They now swung happily and the turntable was reassembled. He turned the unit on its end and removed the bottom cover. A fuse had gone though it didn't look like it. First bit of luck today thought Tim. It now played records and changed properly, so it was returned to the corner.

The Fidelity music centre was the one with the Shure cartridge, a fact that worried Tim a bit. He had the stylus in stock but they're costly. In fact when he'd got the whole thing working and the lamps fitted etc. the stylus cost more than the rest of the repair (shouts of traitor!), but they wanted it for that night and they happily popped down to the bank to draw out the money (why they didn't want to write out a cheque Tim couldn't say, but they paid cash and departed happily).

The Portables

Tim finally turned to the Thorn 1690 – and some other portables that had been brought in during the day. The 1690 gave him a stiff time. There were shorted turns in the line output transformer's e.h.t. overwinding. Tim selected an overwinding from the shelf – he'd sent for some a week before. He fitted the winding with care and confidently switched on. The result was a faint, small raster with poor sound. A check on the stabilised supply line showed that it was at 8V instead of the expected 11V. So Tim checked the regulator circuit thoroughly and noticed that it was running warm. He went through everything in this area and was getting more and more angry. At last he removed the new overwinding and prepared to give up the job. Then a thought struck him. He switched on again and the sound boomed out while the tube's heater glowed brighter. He couldn't believe it. Another overwinding was quickly fitted and a perfect picture appeared.

Tim said (shouted) some naughty words and the dogs hid away in shame. The cat licked her paws, having heard it all before. Tinker Bell appeared and announced that the vacuum cleaner had failed. Tim shouted at her as well but repaired it anyway. The Electrolux had shed a connection at the suppressor (remove four screws and take the top off to gain access). The connection was soldered back on and peace was restored. Tim then returned to the other portables and waded through half of them; the other half being deemed not worthwhile after an initial inspection.

The rest of the jobs had to wait another day. Tim hoped the whisky wouldn't be too cold.

Bless 'em All

Les Lawry-Johns

Having seen the Singing Detective on TV I was reminded of that awful period last autumn when I was covered with psoriasis. It appeared just as my usual mild summer attack was waning. Perhaps the shock of my friend's suicide upset the whole system, for within a matter of days I was covered with it – except for my face which was relatively free. In this condition I went to see Laura Lovitt – the one who used to have the dicey Decca.

The Singing TV Engineer

This time it was a TX9, suffering I hoped from nothing more than a failed fuse. I took the back off, pulled off the fuse cover and checked the fuse. It was open-circuit with no sign of blackening. So I slipped in a new 2.5A fuse and switched the set on. A nice picture appeared and Laura came over and placed her hand on my badly affected shoulder. I had to shake the hand away and Laura stared at me.

“Can't I touch you now?”

“Not at the moment dear. I'll show you why.”

So saying I pulled back my sleeve to show her the mess. She backed away.

“It's VD you see.”

“Ahh” she screamed. “Keep away from me you beast.”

I laughed as I pulled down my sleeve. “Don't worry Laura. It's actually psoriasis and I can't give it away. It'll go when it's ready, which shouldn't be long now. A friend of mine hung himself and this came up all over me. Nice isn't it?”

I could see that Laura was glad to see me go. Fortunately it did clear up soon afterwards.

The Prinzvision

Back at the ranch I found a Prinzvision TV171 17in. monochrome portable on the bench. The tag said intermittent field collapse. I didn't have a circuit and I couldn't see the field output transistors, only those around the height and hold controls – and they were small ones. When I switched the set on the raster was fully scanned. I directed the hairdryer around the height control area and the raster collapsed. I then sprayed the area with freezer, but the white line remained. I sprayed here and there until it looked like something from the depths of the Yukon (which I wrote about some time back but the editor cut out because he doesn't like Eskimo Nell, spoil-sport that he is . . .).

At last I got around to making a more intelligent examination and followed the scan coil leads down to chassis, then looked underneath to see where they went. They sloped off up to the left-hand side, to a raised heatsink panel where the two output transistors lived. I

never thought of looking up there. I sprayed them and the front one turned out to be the culprit. It was replaced in a flash, restoring peace on the home front.

The Pye 741

The chap who brought in this Pye set (741 chassis) said “it comes up from the bottom and pokes a finger up at you”. This I had to see. I connected the set, switched on and a perfect picture appeared.

“I'll leave it with you so you can look at it.”

“Thanks very much, very nice of you” I said.

Well after about an hour the bottom of the picture came up about four inches (26in. tube) and a black finger poked up at the bottom right side of the reduced picture, just like the chap said it would. I was shocked. Fancy it doing that to someone who was going to try to make it better.

The set had vertical panels like the 725 series and I thought that the trouble would be on the upper right side field output panel. I tapped around this and even pulled the earthing tag off. This relieved the load on the supply, which is derived from the line output stage to the left of the tube. The voltage rose and the 30V stabilising zener diode decided to go short-circuit. This destroyed the 6.8Ω filter resistor which didn't even spring open. I was a bit upset by this since these items are not in the most accessible of positions. Some time was spent on replacing them. When peace was restored and a raster at last appeared on the screen it was fully scanned.

I examined the field output panel with ice cool eyes (glasses off). There appeared to be many dry-joints which were attacked with my usual ruthlessness, iron and solder. Nothing escaped. After this the set remained stable for about four hours and I concluded that I'd won. The owner returned to pick up the set and paid – all in ten pence pieces. His son later told me that they were from his money box. The swine!

Later that night, as we were drinking our whisky coffee, we heard a bang on the shop door and the dogs went mad. I slipped down the stairs and found the same bloke standing there.

“It's gone again and I paid you.”

“O.k. old chap, bring it back tomorrow and I'll give it a longer test. At the moment I'm entertaining the Queen and Prince Philip.”

“Posh, aren't we?”

“Not really. They often pop in when passing.”

So it came back next day and I spent some time trying to find out what had damaged the zener diode. The one I'd fitted was big enough for gawd's sake but it had gone short-circuit. I took it out and switched the set on. There was full scan and the chap who'd brought it back admired it, together with half his family – whom I wanted to get rid off as quickly as possible.

“That's it. You've done it.”

I protested weakly that it could well happen again and that he wouldn't like it much if it did.

“It's not me mate, it's the wife. She screams the place

down when the finger comes up.”

“Get rid of her, that’s the best thing. Or tell her to repair it herself.”

And off they went, doubtless to return another day.

A Call from Mrs Furnace

Mrs. Furnace had phoned to say that her Philips G6 (the one I bragged about some time ago, having given sixteen years long and faithful service) had given up the ghost. I rushed up to her house to hear her sad story and took the back off the set while I listened. As I could find no juice at the on-off switch I lay on the floor and played

with the two-pin plug that went into a shaver socket that went into the mains switched socket. There was juice there all right. Mrs. Furnace accused me of looking in the wrong place.

“My light lights when I plug it in there, so it must be all right.”

I undid the two-pin plug and found a lead out. This was refitted and we tried again. The set now came on and worked fine.

“Could I have done that myself?”

“Yes dear. You didn’t need to spend that long and lonely evening on your own. But how were you to know that?”

Dog Watch

Les Lawry-Johns

Most of you naval types will recognise the name Dog Watch. There are two Dog Watches, from 16 hundred to 18 hundred hours in the afternoon and from 18 hundred hours to 20 hundred hours. These are the only two-hour watches, the others – middle, morning, forenoon, etc. – all being four-hour watches which can seem an awful long time apassing. You don't like naval terms? Well what about Gunscrew – Guns Screw not Guns Crew. It's true, or was true.

What's this all about? Well, I've come to the conclusion that we need a Dog Watch here (and there). You see just before Christmas Honey Bunch bought, amongst other things, a nice three-pound gammon steak. After boiling it she put it on the table to cool off, then popped into the shop next door to natter to Dianne and get some cigarettes, dog food, etc. I said natter to explain why she was away a while. I was working on a set at the time and was fully occupied. When she came back and went into the kitchen I heard her say "where did I put it?". It wasn't in the fridge and it wasn't in the cooker, but the dogs were licking their lips – or rather clearing their teeth. When we realised who the culprits were we had a good laugh at the thought of how thirsty they were going to be. They were, and drank gallons during the afternoon watch. When H.B. told Dianne she said we were lucky: her dogs had eaten the turkey. Subsequently our lot pinched a one-pound cheddar cheese. So Dog Watch it's going to have to be.

Back to Work

Now to the TVs. We've had a lot in lately. Lots of nice easy ones like G11s and T20s, but some have been a pain in the neck – mainly TX10s. One in particular got me down, and I do mean down. It was a late version, with the plastic chassis wrap – PC1560 main panel. When switched on it tripped for about ten seconds or so then went dead. During the tripping I could see the tube's heaters lighting up and going out, and the sound came on in sympathy. This seemed to rule out the focus unit, which is the most common failing with this chassis, but I disconnected it anyway. The tripping continued. I replaced R813 (121k Ω) which is another common cause of tripping but this wasn't at fault either. I then earthed pin 8 (error input) of the TDA2582 chopper control chip IC801. The tripping continued, at a subdued rate. Changing IC801 made no difference so I followed the "pull out plugs" routine. This didn't make any difference either. I remain confused.

The Fidelity CTV140

This portable also got me going. We sold quite a lot of these so I took on the repair without a second thought. It seemed to be dead when I plugged it in so I thought the power supply was at fault. It wasn't. When I plugged in an aerial the sound came out loud and clear and I realised that this model has the advanced noise suppression which the earlier models didn't have.

I checked the tube base voltages and found that the first anode voltage was low. On this model it's derived from

the line output transformer which has two knobs sticking out, the upper one for focus adjustment and the lower for the first anode supply. The tube's heaters also appeared to be underrun. I suspected the transformer, as the e.h.t. and focus supplies were correct but the other supplies derived from it were all low. The line output stage itself seemed to be working all right, so without further ado I removed the transformer and fitted a new one. The same conditions continued and I could see that with the station tuned in the screen was not completely blank. I turned up the presets on the tube base and obtained an acceptable picture, though somewhat lacking in attack. So the whole thing seemed to revolve around the low first anode supply. The RC network on the tube base was in order but the heaters were also definitely low and I just couldn't find a common cause.

I shorted out the 1.8 Ω resistor in series with the heaters and this improved things a bit. The owner returned and said it was the best picture he'd ever seen on the set, but I was left feeling guilty and inadequate. I'm getting too old to think straight. The doctor says it's vertigo and suggests that I stop trying to do complicated things, but I hate the thought of giving up and I can't afford to anyway. Plod on.

In fact the set came back within the hour, the picture having faded right out. This time there was no first anode voltage and the previously checked decoupling capacitor (C201, 0.01 μ F) on the tube's base panel was found to have a heavy leak. Removing it restored high brightness and the base panel presets could be returned to their original settings. My guilt vanished, to be replaced by shame. To be fooled by a stupid capacitor, just because it didn't record a leak. Wait a minute, what about the tube heaters? Oh well, the picture was good.

The Fidelity CTV14

I'm sorry to keep on about this model but if you haven't had much to do with it the chances are that you will. These sets are giving a lot of trouble and the more you hear and remember the better equipped you'll be. The original CTV14R is particularly likely to give you heart-ache because of the oft repeated chain reaction. Here's an example.

The set came in because the line output transformer had been shorting. In addition to the transformer, one must expect quite a few other things to have suffered. We found that the line output transistor was short-circuit and the 10 Ω h.t. smoothing resistor R828 was open-circuit. This is a very common occurrence and we've mentioned it before. Replacing these items was only the start however. First the chopper transistor TR13 (BUX84 or BUV46) was short-circuit. When we switched the set on after fitting a replacement it coughed and spluttered and through it all we saw that there was no field scan. A new TDA1170 field timebase chip was required, and fitting this took a bit of patience. When it was installed the tripping continued but we could now see a full scan trying to appear.

Careful adjustment of the h.t. preset stopped the tripping and a bright blue raster appeared. We tried resetting the blue gain and background controls but this made little difference. The voltage at the base of the BF460 blue output transistor TR10 on the tube base panel was 6V while the bases of the red and green output transistors were at the correct 2V. We felt really fed up because this meant that the 28-pin TDA1365 colour

decoder chip was faulty.

This chain of events is not unusual and we often find that the rectifier diodes fed from the line output transformer are also short- or open-circuit. Quite often the customer is not prepared to meet the estimate and doesn't believe that all this can be caused by a faulty transformer. It's true though, it's true. I wonder what else we could do for a living?

On the Pill

Les Lawry-Johns

Yes, I'm on the pill and it hurts. Why? Because when you're taking Stemetil you have to knock off the booze. No whisky . . . it's murder! I must admit that I cheat a little, sort of forget to take the damned things and take my proper medicine instead. Why Stemetil? Because I tend to topple over when I'm sober, and that's not nice when you're carrying a TV set. The other effect is that my mind is muddled every now and again. This tends to get me into trouble with the customers who think I'm taking the mick because I look past them and forget what I'm saying. Never mind, I can't expect to be clever all the time. It's my heart you see: hasn't got the heart to pump enough stuff up into my brain, causing vertigo or something.

The Murphy V1400

This small monochrome portable was made in Japan. It was brought in suffering from a faulty tuner. This is of the rotary type and I didn't have one in stock. So I removed the top cover and inspected the interior. Movement of it either lost or restored reception so I checked here and there for dry-joints, noting that the voltages remained correct. I found that the spindle produced the greatest effect.

The spindle carries the tuning capacitor vanes, as with the tuner in the Thorn 1500 series chassis etc. So I attacked it by spraying the spindle clips to remove the grease, and made sure that the earth contacts were good. After this the tuner performed well and couldn't be made to play up at all. I just thought you'd like to know, because it's a repeat of an old story we all know so well.

Fidelity LOPTs

David Botto wrote recently (September) of having had no trouble with the line output transformer used in the Fidelity ZX3000 chassis. They've been a nightmare here. I've had dozens sparking over. When this happens various i.c.s are dealt a death blow. When the TDA2578 timebase generator chip is killed the symptom, after replacing the transformer, is no raster. This is because the field oscillator has died. Since the fault could also be due to the colour decoder chip a simple check is to apply 4.5V

(approximately) to the top preset on the tube's base panel. This should reveal a single blue line if the TDA2578 is at fault. Having said this it will probably be the field output chip that fails next time. So far we've not had this i.c. fail.

This behaviour is in direct contrast to the earlier ZX2000 chassis, where the line output transformer's habit is to develop a short between windings with the result that the 10 Ω h.t. smoothing resistor R828 goes open-circuit. This is usually the end of the story. If R828 holds out too long or a higher wattage resistor has been fitted (2W is correct) the chopper transistor TR13 (BUX84 or BUV46) could well fail, perhaps taking with it the 39 Ω resistor R826 which is just inboard of it (rear left). This resistor, which is part of the damping network across the chopper choke, is essential to the correct working of the chopper transistor. I have spoken, and having spoken will now move on to something else.

The TX10

Do you recall the TX10 that had me by the short and curls last month? I did do it in the end and feel thoroughly ashamed of myself. I'd removed the plugs in the order suggested in the manual, but the tripping had continued. I'd replaced the chopper transistor and its control chip, also the 121k Ω resistor (R813) that's so often talked about. The tripping had continued. So I sulked.

Some time later I thought I'd have another go and went through the same routine – plug removal etc. The tripping stopped when the scan coil plug was removed. This surprised me because it hadn't last time. So like a fool I hunted through the line output stage, checking this, that and the other and getting nowhere. Then a thought struck me. Before replacing the chopper I'd altered the setting of the h.t. control. I hurriedly set it up again and the tripping stopped. A nice picture with nice sound. It's the vertigo you know.

Remember Jason?

Nearly five years ago, in the June 1982 issue to be precise, I wrote about Jason the wonder dog and the Dynatron owned by Mr. Daines. Well Phil who pops in on Saturdays to pick up a few things (like TV sets) and to put me right now and again was sorting through some old copies of *Television* he'd not seen. He was reading the June 1982 issue and enjoyed the bit about Jason putting me right on the Dynatron. At this moment the phone rang. It was Mr. Daines. After five years his set had gone

wrong again. He'd moved (a bit nearer, as it happens) and is now resident at Park Avenue. I said I would call next morning (Sunday) to restore his field scan but it didn't at the time dawn on me that this was Jason's owner and that it was the same Dynatron. To be certain that it was a G11 I checked the model number (CTV55) with the list. It certainly was a G11, and I was quite happy. Then I realised who it was – and here was Phil sitting reading about the same set and dog.

Next morning I packed my gear and selected a spare timebase panel – without checking it closely. I sped out to Park Avenue and looked for the large house that lay back. Having found it I was most impressed. Mr. Daines came out to meet me and we went into this very nice house where we were greeted by Jason, his tail wagging and eager as ever to tell me what was wrong with the TV set. He led me over to it and barked when I turned it around.

I removed the rear cover and switched the set on. A white line appeared across the screen so I turned down the brightness. I checked the voltage at the upper left side (field timebase supply) to ensure that the fuse was intact. It was, and I could see that the TDA2600 field timebase chip's holder was feeling ill. To save time I removed the panel and fitted the one I had with me. The field scan was now full, but the picture was marred by patterning and was rolling. Jason barked because he could see it wasn't right. So I took the panel out and looked at it closely. At

some time it had been subjected to rough handling and was cracked at the top and bottom corners where the holes are.

It seemed best to repair their panel by fitting a new i.c. holder. I searched through my boxes but couldn't find one. I'd not packed one because I'd thought a spare panel would do. Idiot. I'd done the wrong thing again. I should have repaired the cracks in the spare panel, but I didn't. I removed the holder instead and it shed its legs. I had to tell Mr. Daines I'd been a fool and that I'd have to go back to the shop to get the part required.

So I left things as they were and drove back to the shop, to be greeted by loud barks from Tessa and Zeb. They knew another dog had been around me. Only Spock was quiet. I selected the right holder and sped back. It was fitted in a thrice and the set received its own panel back. A good, clear picture was obtained. Jason wagged his tail and Mr. Daines wrote out his cheque.

Back at the shop Fred Cole was waiting with the G8 he'd bought from me some ten or eleven years earlier. The picture could hardly be seen so I reactivated the tube and adjusted the presets to get a good picture.

"Well done Lawry" said Fred. He always calls me Lawry. Lots of people do. They seem to think it's my Christian name. Never mind. We were now clear and could get washed and brushed and have a drink upstairs before dinner. I hadn't taken the pill. I'd forgotten again.

The Return of Madame Martine

Les Lawry-Johns

Some while back I wrote about a seaside fortune teller who warned me about the blue tant. I mentioned that a while later I delivered a new set to a customer who was a friend of mine. As we were watching the golf the colour faded out – Bob didn't notice this as his hero was in a bunker. I related that I'd traced the fault on the decoder panel and that it turned out to be due to a blue tant. Time passes, and alas poor Bob has passed on. But the memory remains. Last Saturday as I was working on a set on the bench an old girl came in. She looked at me and I had this feeling I'd seen her before.

Good fortune is coming

"You've a lucky face. Good fortune is coming to you."

"It's about time" I commented.

"Be patient" she said, "good things are worth waiting for."

"I've been waiting for years dear, and I'm still scratching a living mending these things."

"Give me your hand and put a five pound note on it. I will reveal all."

I looked at her hard. "I have to work to earn five pounds. Often for a bloody long time. You want five pounds for a couple of minutes' waffle?"

"It's not waffle: it's the truth and you'll see later on."

It dawned on me whom I was talking to. The blue tant lady. Oh dear. I whipped a five pound note from the till. She whipped it from my hand like lightning. She then grabbed my hand and traced lines down it to my wrist.

"You've a long life and a happy one. It wasn't always so. You were unhappy some years ago but that's behind you. You're happy now and good fortune is coming to you soon."

"As soon as it came to you?" I queried.

She gave me an impatient look. "Now screw thirty pounds up and put it on your hand. I'll put the crystal ball on it."

I scraped around until I had found thirty pounds and screwed it up as I was told. She stroked my hand.

"Now you wouldn't begrudge me that small amount, would you?"

"Oh yes I would" I snapped. "You've already conned me for a fiver. Make do with that."

Her attitude changed immediately. "You're mean, that's what you are. Begrudging an old woman an honest living. You'll regret it."

Just then Phil came in and she started on him. He too parted with a fiver and she told him he'd marry a girl with an M and an L in her name. Phil's loved one is called Sarah. Oh well. How easily we part with our hard earned cash. Seeing that she wasn't going to get any more she departed, saying as she went "beware the white cap".

The next witch on the scene was Honey Bunch.

"You dozy oafs, parting with a fiver each to that old hag. She can't tell fortunes but she seems to be able to grab them off fools like you two. I can tell fortunes better than she can any day of the week."

She can too. Sometimes when she holds something of mine she can say what's going to happen next, and she's always right. But I don't want any of you lot calling here to have your fortunes told. If you do I'll be the one to tell them.

Universal triplers

Do you remember me telling you about Keith from Pompey who called to bring me some scan coils I didn't need after all? While he was here I sold this chap a universal tripler to fit to his CVC30 and told him to join the diode and earth leads together to the earthy side of the focus control. The right and proper thing to do . . . with the ITT set. Keith had commented that the tripler wouldn't last long connected that way and I'd wondered why.

Well the other day I had a call-out to fix a G8. It needed a tripler and I didn't have the G8 one with me, so I dug out a universal tripler and trimmed the leads, soldered the cap on, etc. I joined the diode and earth leads together and soldered them to the clip. On switching on there was a humming noise and very little e.h.t. The new tripler was getting hot. I switched off and clipped through the diode lead. Everything then came on fine and I felt daft. You see I'd always fitted the original Philips type tripler in a G8, never having had to use a universal one before.

When I got back to the shop I looked up the leaflet and it clearly tells you to trim off the diode lead and insulate. Connecting the diode and earth leads together on the G8 had meant that the clipper diode had no load. Sorry Keith, I was right about the ITT, but wrong about some of the others. I didn't know the G8 was amongst them. I'm amazed at the things I don't know. And a little bit ashamed.

Washers

A set fitted with the Philips CTX chassis came in the other day – I think it was the E version. The chopper transistor was faulty so I fitted another without trouble and checked around to see whether there was a cause for the chopper's demise. There was. The line output transistor was short-circuit. I decided to use a BU508A but found that the original transistor didn't use an insulating washer, being solid plastic. So I had to fit a washer in order to use the BU508A. Why's this worth mentioning? Restricted space, that's why. I had to use a pair of tweezers to fit the transistor and washer in position – the gap between the line output transformer and the side wall is about half an inch. The chopper needed the same treatment, but in this case there was plenty of room.

Talking about washers, the rubber ones used in the Ferguson TX100 chassis are beginning to give trouble. Apparently they tend to puncture, probably due to slight irregularities in the surface of the transistor or the heatsink. I thought I'd pass this on to you in case you have one of these sets and are puzzled by the transistor being all right but an obvious short being present.

The white cap

I know you thought the white cap would probably be an 0.47 μ F, 1kV type living in a CVC5 or something like that. Well you were wrong. It lived on the head of a pretty girl who, believe it or not, popped into the shop to tell me I'd

a lucky face and would live a long time and would have good fortune. She looked at Phil and asked him to go away. She then said in a low voice "don't trust that man, he's after your business."

I called Phil back and we had a bit of a laugh. Phil said to the girl "you don't happen to know Madame Martine by any chance?"

The girl looked sort of funny and replied "she's my grandmother and told me this gentleman was generous. You are dear, aren't you?"

"Sorry dear but this drain on my hard earned cash is

getting a bit much. Would you take a couple of quid and clear off like a nice girl now?"

"That won't help me. I need folding money."

"Well you'll have to clear off without then and leave me to earn my dishonest living."

"It's only he who stopped you giving me a tenner. I know. I'll see you again."

And she went, white cap and all, leaving me a little uncertain and a little bit angry at the way some people expect to be able to make a living. I suppose I'll have a lot of bad luck now . . .

Mr Doublecheck and Mrs Tart

Les Lawry-Johns

We've had some odd ones in here recently, and they're getting odder. Take Mr. Doublecheck for example. He's from some east European country and his use of the English language is on the quaint side to say the least. He carried in an old Ferguson record player with a BSR deck.

"It doesn't speak properly."

"Right oh! sir, we'll make it speak properly. Call for it tomorrow."

"No, I'll call for it on Wednesday" – which was tomorrow.

So we got down to it. The stylus had no tips and on auto it didn't land in the right place. This was seen to and the next item was that the turntable made a grinding noise. So we oiled the centre spindle then saw to a couple of other points. It now played La Boheme beautifully in rich Italian. Jim Reeves sang in rich English.

He came back the next day and asked to hear it working. So I plugged it in and put on La Boheme.

"It still doesn't speak properly."

I snatched off the record. Jim Reeves now sang in English.

"Ah, now it speaks properly – but what's that noise?"

I listened very carefully and turned the sound down. Yes, I could just hear a faint thump I'd not noticed before. I took off the turntable and inspected the rubber drive wheel. This had a slight dent where it had been in contact with the spindle and left there motionless for some time. I selected a new one from the shelf. It now played without the slight thump. Jim Reeves sang again and Mr. Doublecheck nodded cautiously. He produced a length of lead from his pocket, and a 13A plug.

"Put this on for me. My landlord doesn't like me doing these things."

I sighed and fitted the plug.

"How do I run my light and record player from this?"

"You put a socket on the end of the lead and fit a two-way adaptor."

"You do this for me. I don't mind waiting."

So I fitted a socket and supplied an adaptor.

"Thank you. I'll bring the money in tomorrow."

Mrs Tart

Some time later a tall, fashionably dressed lady came in carrying a 12in. monochrome portable. She spoke in a very la-di-da manner, obviously not her usual voice. I wondered what she had to hide.

"I've been given this TV set for my son to use in his room. The picture's very dark. Can you do something about it?"

I said I'd do my best and that she could probably have it later that day. Left alone I tried the set and found that the whites were silvery, suggesting that the tube was low or underrun. I checked the heater supply and found it to be 12V near enough. All the other tube base voltages seemed to be right except for the first anode voltage which was under 200V. The manual didn't specify what it should be so I checked the resistors and capacitors in the circuit and found them to be within specification. I reactivated the tube and was rewarded with a nice clear picture.

When Mrs. Tart returned I showed her the picture.

"Oh yes. That's a little better – but not as good as that one there."

She pointed to the TX9 14in. colour portable which had a needle-sharp picture and was for sale.

"That's a beauty" I said proudly.

"Is it for sale?"

"Yes indeed. It's eighty pounds."

"Will you take weekly payments? Say 50p a week?"

"No madam, I'm afraid I can't."

"Well, how much is my little portable?"

"Five pounds, madam."

"That much? I can't afford that much."

"Well take it away and don't come back any more."

"I don't mind giving you a pound."

"Just take it and go, please."

So she went, in her fashionable clothes and her put-on talk. I must be barmy.

The CVC30

Next came an ITT colour set with a 26in. tube – CVC30 chassis. For some peculiar reason I didn't tackle it the way I usually do. I checked the h.t. voltage and found none. Next I checked the chopper transistor which was in order. It had –320V at its emitter and base, so it wasn't being turned on. The driver transistor had no voltage at its collector. I put a short across its base and emitter and h.t. appeared at its collector. As a quick check I fitted another CMP30 switch-mode power supply control panel. Still no joy. So I dug out the circuit and studied it. I moved and the edge of the manual touched the upper right EW modulator drive panel. The whole thing then came on and a nice picture appeared. I tapped here and there, hoping to find a dry-joint. I just couldn't make it go off, so I proceeded to deal with the other complaint, intermittent height.

This was an easy one, the fault being on the correction board over the scan coils. There was a nice dry-joint here which I corrected with a short length of wire. The height was now steady and I returned to investigate the mystery shut-down. I couldn't make it repeat its original performance no matter how many times I switched off and on again. The customer returned and I related the sad tale. He expressed satisfaction with the set and carted it off. Next day he phoned to say that it was dead again and he'd be bringing it in.

This time I tackled it the usual way. I tapped the line output transistor and the set came on immediately. The usual dry-joint on the collector tag. I could have kicked myself but got Honey Bunch to do it instead. Not that hard you cruel bitch . . .

The customer carried his set off again and we haven't seen him since.

How Not to Repair Sets

When Beardy and Non-beardy carried an old Thorn 3500 in I cleared my throat ready to tell them to . . . off.

"We will pay you well to repair this TV for us."

"And guarantee it for ever no doubt."

"No, no. That was just a misunderstanding. You mis-

understood us you see.”

“Oh, all right. Leave it here and pick it up later today.”

“We’ll call for it on Friday morning.” Good Friday. Another holiday lost.

When they’d gone I started on the most horrific job I’ve mucked up for a long time. I think I did everything wrong.

I noted that the red button had tripped, so I checked for shorts and found one straight away. A BU208 had been fitted in place of the R2010 chopper transistor. After a struggle I removed it and checked it with a meter. In the set it had recorded a dead short: now it was clear of shorts. I checked the set again. No shorts. I fitted a new R2010 and switched on. There was a click and some smoke. The R2010 was dead short. I removed it and it was still short-circuit. I called the set some nasty names, removed the power supply panel and fitted a spare. As there were no shorts I switched the set on. It coughed and the 2.5A h.t. fuse failed. I again checked for shorts and found none. What I should have done was to disconnect the tripler, but I didn’t, being the fool that I am.

I decided to change the timebase panel. When I switched on the new fuse failed (not blew). Now I

disconnected the tripler, and now the fuse held. I kicked myself (softly, not like H.B. does). I tried again after fitting a new tripler. This time the picture came on but was far too bright: with the aerial out the raster was over bright.

The first anodes were at 800V, but with the controls turned down the raster was still too bright even with the brightness control at minimum. Like a fool I checked the beam limiter panel carefully and found nothing amiss. A check on the grids revealed that they were at the same voltage as the cathodes, well over 100V. A check at the tube bias preset R450 showed that there was no negative voltage here. The feed resistor was all right but there was no negative supply at connector 18/1. It then dawned on me. I’d fitted the new tripler plug without seeing it properly. On inspection only this end was contacting, the far end wasn’t even in. I called myself every rotten name I could think of, like the chief P.O. had called me when I swiped his head with my rifle in 1942. Now the picture was good and the controls had to be turned up to their previous settings. I didn’t have the nerve to fit the original panels. I just wrapped it up and waited for Beardy and Non-beardy to collect it. They still haven’t.

Now Read This

Les Lawry-Johns

I'm told that some of you who repair Ferguson videos don't recognise a fuse when you see one. Now I don't care to get involved with VCRs myself but when I was given to get involved I thought it would be prudent to pass it on, although the majority of you probably know what it's all about already. The point is that the fuses concerned don't look like fuses, they look more like a small diode or a transistor with two legs. They're called Wickman fuses and are rated at 150V. Close scrutiny of the list given in Table 1 reveals that the current rating is obtained by multiplying the type number by 40, for example type ICP-F10 has a rating of 400mA ($10 \times 40 = 400$). Cries of never... Table 2 lists the range of Wickman fuses available from Philips Service, and their code numbers for ordering purposes. I hope you find this of interest. Take a note of it, just in case.

The Big Roberts

This large set was brought in the other day by two big fellows who puffed a bit. It turned out to be fitted with the Philips G9 chassis, which was bad news for uncle Les. There was about four inches of field scan on the 26in. tube, almost full width, no control of brightness and very little sound. Now as you know the first thing to do with this chassis is to check the condition of C138 (2,200 μ F) which decouples the emitter of the BU208 line output transistor, serving as the reservoir capacitor for the 42.8V supply. I didn't suspect it of being the cause of the fault conditions but checked it just the same. It was on the way out, emitting thick black fluid. I changed it and tried the set again. Still the same. The BU208's emitter voltage was low at about 20V, thus explaining the poor field scan, low sound, etc. I removed the plug connected to the timebase panel (line oscillator, field timebase, EW correction circuit etc.) and the BU208's emitter voltage rose to 40V.

Like a fool I fitted another timebase panel. The symptoms remained the same. So I concentrated on the line

Table 1: Wickman fuses used in Ferguson video equipment.

Type	Rating	Part no.	Used on
ICP-F10	0.4A	01X0-042-112	3V33/38/39/42/43/45/47/48/49/54/56
ICP-F15	0.6A	01X0-040-407	3V29/30/35/36/38/39/49/50
ICP-F20	0.8A	01X0-086-061	3V46/50
ICP-F38	1.5A	01X0-057-320	3V38
ICP-N10	0.4A	01X0-058-395	3C01, 3V44/45/48/50
ICP-N25	1A	01X0-085-007	3V44/45

Table 2: Wickman fuses from Philips Service.

Rating	Code no.	Rating	Code no.
63mAT	253 10058	1.25AT	253 10075
160mAT	253 10054	1.6AT	253 10046
250mAT	253 10071	2A	253 10051
315mAT	253 10074	2AT	253 10039
400mAT	253 10064	2.5A	253 10082
500mAT	253 10041	2.5AT	253 30089
630mAT	253 20089	3.15AT	253 10048
800mAT	253 30104	4AT	253 10047
1AT	253 10052	5AT	253 10065

Note: T after A indicates time-lag type.

output panel and found a leaky diode (D176) in the beam limiter circuit. Replacing this didn't alter things one jot and I was getting fed up. After further checks I found that the "lower" diode in the diode modulator circuit, D156 (BYX55-600), was open-circuit. Heaving a sigh, I replaced this and put the panel back in. It worked. Full voltage at the BU208's emitter, a lovely field scan, full control of brightness and good sound. I would have thought that an open-circuit diode in this position would have had a more drastic effect on the width, but it didn't. Something else to remember.

The Pye 196

This set gave me a bit of a headache. It's a small monochrome portable fitted with the Philips TX chassis. The complaint was that the picture would go off at irregular intervals, leaving a blank raster with slight radio music or talking sounds in the background. To me this meant trouble in the i.f. strip. My problem was that the fault just wouldn't put in an appearance. The picture stayed on for days. Eventually, one morning, the picture did go off, leaving a blank raster.

I leapt at it and found that the voltages at the base and emitter of the first i.f. amplifier transistor were higher than they should have been - about the same as at the collector. If I switched off to check the transistor however the fault would be gone and we would be back to normal. So I followed the base bias back to the a.g.c. amplifier transistor TS351 and found that this had no base bias. Its collector voltage was thus high and the i.f. amplifier transistor TS217 was being turned on excessively. The base of TS351 is biased by R353 (820k Ω) which was open-circuit. After replacing this the set behaved itself for several days and the owner was glad to collect it.

The set was used in a caravan and had always behaved for the husband but always gave his wife trouble. She blamed him and he was glad to be out of the doghouse. It's all right for him. I live in one all the time. Tessa and Zeb are good really: it's the cat that leads me a dog's life.

The Radio Set

This was a killer. A shop (I won't say who it was, Peter) had told this chap that the only place where he would get his radio set repaired would be here. I said I would have a look at it if he brought it in. Shortly after this he appeared with his wife, carrying a small wooden box. His wife explained the trouble.

"When we turn up the volume it screams at us."

I took the back off and looked inside. On the right-hand side there was a tall object which I took to be the dropper. Next to this there was a valve which seemed to be a 6Q7. It was obviously a double diode triode anyway. There were two further valves to the left, both with top caps connected to the tuning gang (two sections). I looked for an output valve and rectifier but they weren't there.

"Did you say this set goes?"

"Yes, but it howls at you."

I plugged it in and switched on. Something flashed and went bang underneath. I unplugged it and removed the chassis screws and the knobs at the front. The whole thing came out, including the speaker. When I turned it over I saw that the mains filter capacitor had disintegrated. So I clipped it out. "We'll fit another if a strong station has a hum behind it" I explained.

I switched it on again and was aware of an obnoxious smell.

“It’s the smell that’s getting us down” he said.

I sniffed around and it seemed to come from the dropper. I looked at it closely. It wasn’t a dropper, though it looked like one. It was an old selenium rectifier. I disconnected one end and fitted a BY127. “It won’t smell any more” I said.

“That little thing in place of that big one?” he queried.

“The march of time” I explained.

I examined the set in more detail and came to the conclusion that the double diode triode drove the speaker, that what I had assumed was the i.f. amplifier was in fact the second r.f. amplifier, and that what I had assumed was the frequency changer was the first r.f. amplifier. It wasn’t a superhet at all, it was a t.r.f. receiver. This meant that the “volume control” was in fact a reactance control, hence the oscillation when it was turned up. I connected the short aerial lead to the braiding of a TV aerial and the set started to perform. With the set tuned to the h.f. end of the medium wave band I tuned the trimmers on top of

the gang. The stations now came through loud and clear. I turned up the “volume control” and the set howled, so I turned it down for comfortable listening.

“How long an aerial lead do you use?” I enquired.

“About four feet, connected to a water pipe” he replied.

“Well don’t connect the aerial lead to a water pipe unless you use it as an earth. Use a bloody great length of single lead and don’t connect it to anything.”

“Why?”

“Because the ideal length for an aerial is half a wavelength. Radio four on the long wave is 1,500 metres. The aerial length for this is therefore 750 metres. Get the drift?”

“Yes. Thanks very much.”

So they went off leaving me feeling full of nostalgia for the old days. I thought I’d forgotten it all but back it came. I still wonder about that double diode triode driving the speaker.

Tiny Tim's Triple Trouble

Les Lawry-Johns

Tim sat behind his bench and looked out at the world, or some of it. Pretty girls looked at the door to get a reflection of themselves – this was apparently their favourite occupation. How could they tell their boy friends they loved them? There just wasn't room. Not till they got older and told their children they were selfish.

It's a funny place this world, thought Tim. Then he realised he was the same himself. It was just that he didn't show it so blatantly. He sort of covered it up and pretended he cared for others. Like Tinker Bell really did – not for Tiny Tim of course, but she seemed to care for others.

His eyes strayed under the bench. How did those books of naked girls get mixed up with his service manuals? Oh yes. He was saving them for his brother who liked things like that since he couldn't do anything other than sit in a chair all day and read and watch videos and things. Tim didn't like these rude books. It was just that he had to make sure that his brother wasn't going to see something that would upset him. Besides, he would have to keep them until Saturday so that Phil could read them too.

Mr Golightly's K40

Just then Mr. Golightly opened the door and carried in a Philips K40. "It goes off just when it's getting interesting, and my wife's getting fed up with it and with me" he explained.

Intermittent operation. Tim's heart sank. He wasn't keen on K40s as he hadn't had much to do with them as yet – not like the KT3, which he was always pleased to see, with its unreliable tripler and probably a faulty chip or two, or the usual problem of the 4.7Ω resistor without chip faults.

He removed the rear cover warily, switched on and connected an aerial. A lovely picture appeared and remained. Tim got out the hairdryer but nothing responded to it. He then drew out the lower, centre power panel to see whether heat on this would do anything. Now to get this panel out you have to lower the main panel. Having pushed the power panel back in Tim raised the main panel and the set went off. He lowered it and the set came back on.

"There you are" said Mr. Golightly, "on off, on off".

Tim sighed and peered at the main board closely. A tiny spark caught his eye. Yes, on one of the line output transformer pins. Quick as a flash it was resoldered. "All done Mr. Golightly. See you next year perhaps."

"What? When? Wait a minute!"

Tim moved the main board about and tapped it with the screwdriver handle. "All done. Next gent please."

He wrapped it up and put it back in the car while Mr. Golightly muttered about what his wife would say if it happened again. We haven't seen him since – except when he popped in with half a bottle of Bells for Tim. In fact the poor joint hadn't been cleared that quickly. The pin had been scraped clean before resoldering.

Tim's Second Trial

When two fellows staggered in carrying a big TV set with doors Tim wondered what it was. It turned out to be

a fairly old 26in. GEC set of the C2110 variety. Tim felt at home with this type of set and had no qualms about undertaking the repair. The two chaps departed, having given their details, and said they would return later that afternoon.

Tim removed the back cover and went straight to the fuse on the upper left side. It had failed but wasn't blackened. Tim fitted a new one and switched on. The sound came on and the e.h.t. rustled up and Tim felt pleased that he had taken this short cut. The fuse then curled up and failed, and Tim stamped his foot in anger.

He checked the lower centre power unit which said it was in order – the thyristor, the electrolytics, everything. He then checked the line output stage carefully. Again no fault. He remembered Beardy's 3500 and disconnected the tripler, then fitted a new fuse and tried again. The sound burst out but the new fuse died as the previous one had. Tim reconnected the tripler and disconnected the line output transistor. Another new fuse was fitted and this time it held. Tim didn't suspect the line output transistor but changed it just the same. He disconnected all the l.t. lines from the line output transformer just in case then tried again. The fuse failed after thirty seconds. Feeling a bit fed up, Tim tested all the items associated with the line output transistor's base. Everything was in order, but then they would be if the failure occurred only when the set was working. So it would have to be panel replacement.

Tim thought hard, which was something he was not used to doing. What if a replacement panel was fitted? Would they be prepared to pay? Tim put the set to one side.

When the owners (carriers) returned, Tim asked them how much they were prepared to pay for the job. "Somewhere between five and ten pounds" was the answer.

"Clear off" said Tim angrily. So they carried it off and Tim sulked. All that time and worry wasted. He would have to change his ways. But why should he? He'd been doing this job for forty years or so and he wouldn't change now. Oh for a couple of nice G11s.

Mrs Fidler and the G11

Just then the phone rang. It was nice Mrs. Fidler who lives on the outskirts of town. Tim had sold her a Pye G11 some years ago and this was the first time she'd been in trouble. Nice Mrs. Fidler, a young sixty year old, who had her mother living with her.

"Hallo Mr. Tim. Can you come and fix my telly? The tube's gone."

"How do you know the tube's gone Mrs. Fidler?"

"Because there's a white line across the screen. Our neighbour had the same thing and Snappy Repairs took the set away and fitted a new tube. It only cost them eighty pounds."

"I'll come and see to it Mrs. Fidler, and promise it won't cost you eighty pounds." Tim packed his bags and made sure he had some 800mA fuses, a TDA2600 chip and a chip holder. He sped up the road avoiding the dogs who were chasing a bitch on heat. When he arrived he whipped the back off the set and switched it on. There was a supply to the field output stage so the fuse was

intact. He unsoldered the TDA2600's heatsink and removed it, having checked that the base of the holder had not been overheating and had no dry-joints. The new TDA2600 was fitted and the heatsink replaced. Upon switching on a nice picture appeared.

"Oh Mr. Tim. It wasn't the tube after all."

"No dear. You're not the only fiddler in town I fear."

By the time Tim got back to the shop the phone was ringing. "The white line is back Mr. Tim."

Tim cursed himself. He hadn't checked the $470\mu\text{F}$ h.t. reservoir capacitor. He sped back, carrying a replacement capacitor and another TDA2600. Tim looked sheepish when he got there. He removed the $470\mu\text{F}$ capacitor from the power board. It was a red one and the tags were blackened. After fitting the new welded one and the TDA2600 Tim was rewarded with a nice clear picture. "You're lucky Mrs. Fidler. This could have cracked the tube."

"That's what I told you, Mr. Tim."

"I . . . er. Oh, never mind. Just joking. Goodbye Mrs. Fidler. Have a nice day."

Tim slunk back to his little shop and told Tinker Bell all about it.

"I've heard you tell a million people about that capacitor and what it can do. And when it comes to it you don't bother to check it yourself" she said.

"I know, I know. Silly me."

Wickman Fuses

Oh, incidentally, Wickman fuses (see last month). Ferguson don't call them that. They refer to them as "circuit protectors". They seem to be the same however, like a small black transistor with two legs. But order them as circuit protectors from Ferguson, Wickman fuses from Philips.

Mr Harass and Mrs Corker

Les Lawry-Johns

Mr. Harass originally phoned to say that his Bush T20 was ghostly for the first two minutes or so, after which it was all right. Now I've had this business several times with T20s and T22s, and the cause has been the 47 μ F electrolytics in the switch-mode power supply. I looked for a spare unit and called out for one to show itself. Nothing doing, so I thought I'd call in on Geoff to see whether he would lend me one and, to be on the safe side, I took a couple of 47 μ F electrolytics with me.

Eddy's Advice

I landed at Moon Lane and slipped up the stairs to see Geoff. Having picked myself up, I could hear Geoff laughing and saying to Eddy "the silly old sod can't even walk up the stairs without falling over. Oh, hallo Les. Sure footed as a mountain goat as usual."

I smiled in my usual composed way and enquired about the availability of a T20 power supply.

"Certainly old chap, are you sure you need it?"

Ignoring the implication of this remark or query, I described the symptoms. "Ghostly for the first two minutes."

Eddy spoke up, "You need a tube base socket, not a power supply unit."

I smiled. "Thank you Eddy, but I'll borrow the power supply if I may."

With the unit clutched in my hand I left the shop of doubt and headed for Hollyberry Lane, trying to remember what it was that Honey Bunch had asked me to get from the corner shop next to where Mr. Harass lives. I thought I'd fit the power supply unit first and get the ham later.

"Good morning Mr. Harass. Are you the gentleman with the dicey power unit?" After being ushered into the room where the T20 lived I whipped the set round, removed the rear cover, hooked the chassis into the service position, lowered the timebase panel and had the power supply unit out before you could say dozy. I slipped the spare one in and connected it up. When I'd fitted the aerial and switched the set on the sound boomed out and a picture tried to appear. It was miles out of focus. I smiled a sickly smile at Mr. Harass. "Sorry sir, I'll have to pop it back to the shop for a few minutes, to make it better so to speak."

The T20's own power supply was refitted, the rear cover replaced and the whole lot was then carted back to the shop, pausing only in Moon Lane to return Geoff's power supply.

"Sorry Eddy. You were right as usual. The silly bugger didn't say it was out of focus. Have a nice day."

Back at the shop I removed the faulty tube base socket and fitted a new one. The picture was good from switch on. Only a slight touch on the focus control was required (remember that). In a trice the set was taken back home to beam its lovely picture at Mr. Harass. "LLJ triumphs again" I snarled as I sped back to the ranch.

Two Days Later

Two days later Mr. Harass phoned again, this time because of sound hum that varied with picture content. I

selected my spare decoder/i.f. panel and wound my way up to his house. Oh yes, I'd forgotten to get the ham last time . . . I listened to the sound from his set and it did have a hum which changed when the scene changed. On fitting the spare panel the hum had gone.

"The picture's nowhere as good as it was" said Mr. Harass.

I adjusted the preset contrast control.

"That's better."

So off I went, hoping to hear no more. Some hope.

Two days later he was on again. "The picture's terrible. Can't see the stumps and can't read the score. I want my panel back."

Now I had spent hours on his panel, painstakingly removing every suspect capacitor and finding it good. I resolved to refit his panel and if necessary swap over the i.f. subpanel and tweak up his focus control. Have you noticed that if you alter the focus potentiometer setting you have to reset it back later? Not every time of course, just nearly every time.

So off we went again. I removed the rear cover and reset the focus control for a clear picture. I then refitted his panel and there was no hum at all.

"Ah, that's better" said Mr. Harass. "I knew that panel you fitted was no good."

I heaved a sigh and left it at that. I hope the focus control holds its contact this time.

Mrs Corker's KT3

I was busy talking to the dogs, telling Tessa what a pretty girl she was, when the phone rang. It was Mrs. Corker, her with the legs. She'd called to say that her Philips TV set (KT3) was on the blink. In fact it wasn't doing anything except stand there, and it wasn't doing that very well either. I promised to call during the afternoon.

I was greeted at the door by Mrs. Corker, who was wearing the shortest of short skirts. I swallowed hard and allowed her to precede me into the drawing room. She immediately lay under the set and gestured for me to do the same. I've been caught by this one before, and hesitated to tell her I was beyond it.

"Get up Mrs. Corker. We'll turn the set on its side."

She scrambled to her feet, looking I thought a little annoyed.

When the set had been turned on its side I tightened up the loose screw. I wonder who'd loosened it? After putting the set upright I switched on. Nothing.

"It's the switch" she said.

"Funny how all you women say that" I commented.

With the rear cover removed I found that there was h.t. at one end of the 4-7 Ω surge limiter resistor but nothing at the other end. I removed it and fitted a more manly type. The set now came on but was tripping. After disconnecting the lead from the line output transformer to the tripler the tripping stopped.

"You need a new tripler Mrs. Corker."

"Will that stop the colour keep going off half way through the evening?"

"No dear. That's a little something that can be done in no time and I'll do it before I go."

So I fitted the tripler, taking the diode and earth leads

over the top, and soldered them together where the original single lead had come through, in my usual lazy way. I took out the left upper panel, cleaned the contacts, and refitted it. After switching on I was rewarded with a lovely clear picture in full colour, except for a predominant green which sorted itself out in a couple of minutes.

“What about the colour going off?” asked Mrs. Corker.

“That won’t happen again, I promise you. Well not for a year or so anyway.”

“I didn’t see you do it.”

“You were looking at that bird in the garden.”

“Oh, lovely, I must give you something before you go.”

“Yes dear. Thirty quid.”

“Not negotiable?”

“Sorry.”

The Thorn 9000

I limped back to the shop and found a Thorn 9000 on the bench. Now I’m not keen on these sets as they tend to play tricks on me. This one had had a new tripler fitted recently. I disconnected this, though I didn’t suspect it. Switching on rewarded me with sullen silence, though there was h.t. on the syclops wall. I turned it over and checked the usual places. As all seemed to be in order I disconnected one end of R709, the 47Ω resistor connected between the base and emitter of the syclops transistor. It read something like 10Ω . I pushed the free end through, out of harm’s way, and fitted a new 47Ω resistor on the underside (lazy me . . .). The thing then started up, leaving me just to reconnect the tripler. This resistor seems to be really playing up nowadays, but it makes a nice, easy repair. What we need is nice easy repairs. Where did they go?

Keith and Alex

Les Lawry-Johns

Keith and Alex have been up again from Pompey to straighten me out. They keep having to do it. If you recall, on the last occasion they were in the shop I'd sold a chap a tripler and told him to join the diode and earth leads together, whereupon Keith had commented "it won't last long like that". I wondered about this as I've always joined them for use in the ITT CVC32 chassis. Apparently the receiver had been a CVC5, not a CVC32 – the evidence being the tripler he'd had in his hand. Now I honestly didn't see a tripler of any type and understood that he wanted one for a CVC32. Hence the confusion. The chap never came back, so I assume that he must have read the leaflet and connected it correctly. My apologies, all round.

The Philips G11

While Keith and Alex were paying their latest visit I told them about the Philips G11 that had me going for some time. In a nutshell, it blew the BU208A line output transistor every four days, despite fitting a nice new 470 μ F h.t. reservoir capacitor – on the first day. Three times it came back, and each time I went over the joints, resoldering every suspect and non-suspect. I could have fitted a new line scan panel but wasn't happy with this approach to the problem. When I'd fitted the last BU208A I kept the set on test for several days.

One morning I switched it on and it refused the start. The h.t. fuse was intact – it had always blown when the BU208A had gone short-circuit. The set started when the top plug supplying the BU208A was touched. My troubles were over when I connected an extra lead from the socket's base connector to the base of the transistor. The set's been going all day every day since but the owner hasn't been back to collect it. I suppose he was a bit fed up with it and with me.

The joke was when a gentleman came in to buy a black-and-white receiver since he's colour blind. Said he'd been everywhere (I doubt that) but hadn't been able to purchase one. He looked at the G11's picture – a black-and-white film happened to be on.

"I like that" he said.

I told him that one wasn't for sale, so he bought a 20in. Thorn 1500 which had had a new tube fitted. He told me that he could identify the balls on a snooker table without seeing the colours. Well I never . . .

The Bush T20

Shortly after this a Bush T20 came in and a quick test proved that the BU208A was short-circuit. I fitted another one and resoldered all suspect joints. After switching on there was a lovely picture – for three minutes. Bonk. The BU208A had bit the dust. I did everything I could think of, including the addition of an earth lead from the timebase panel to the line scan panel, renewed the BU208A and the driver transistor and tried again. Two and a half minutes later the BU208A died. I put the set to one side and got on with some more rewarding jobs – not that there are many about nowadays.

I eventually tackled the T20 again. After fitting yet

another BU208A I concentrated on the joints that looked good and resoldered all that played a part in driving the line output stage. When I removed the solder from the legs of the line driver transformer I noticed that they weren't clean. I scraped them until they were shiny and resoldered them. This time the BU208A survived and so did I. Fooled by an old one like that!

Dr Dicey's Dynatron

When Dr. Dicey phoned I knew I couldn't ask him to bring his set in – it's a great big 26in. Dynatron. So I would have to go to see him, and I didn't have a car. Mine had broken down on the way to Heathrow a few days earlier and as the cylinder head was now warped I would be without it for some time. I remembered my friend Les whose Dynatron I'd fixed a couple of days previously. He'd said he would like a new set but would like to have it fitted into the existing cabinet. I'd declined to do this on the grounds that it would be difficult to get one to fit. As Les is retired I got on the phone to him to see whether he would run me up to Dr. Dicey. He said it would be no trouble at all and he'd like to see Dr. Dicey again – he'd not seen him for some years.

"But he was a woman's doctor, one of those gynaecologist fellows" I said.

"Yes of course. I knew him outside his practice."

By now we were almost there and soon came to a halt in his drive. I went in and examined the patient, which had severe damage to the power supply and remote control receiver boards. The chassis is similar to that used in the Pye 731 series.

The doctor commented that had it been a woman he'd have sorted out its inside, but a TV set was another matter and he didn't feel inclined to have it repaired. He wanted to retain the cabinet and fit a new set inside it. I knew that this would mean two transplants, one for the doctor and one for Les. Oh well.

I carefully measured the inside of the cabinet and jotted down my findings. We returned to the shop to pick up a G11 in good working order to serve as a loan set while I ordered a new one. This kept him happy for a few days, and in the meantime I picked out the Pye 59KE2703 as the most suitable candidate for the operation. This arrived a few days later. It had a dark cabinet (anthracite) and a remote control handset. I quickly unpacked it and lined up the programmes.

The 24in. FST screen looked lovely and flat and I felt it would fit nicely into the doctor's cabinet, being 27in. wide and just over 18in. high. I contacted Les who was only too pleased to assist with the fitting, knowing that if all went well there'd be a repeat performance with his own set.

Up we steamed and I ripped out the panels and removed the tube. Then came the job of removing all the bits and pieces that would have impeded the entry of the new set. The Dynatron's nice looking front panel had to be removed, but shortly afterwards the new Pye looked out over the doctor's lounge and produced a good picture. All that was now necessary was to line up a programme for the doctor's video, which was quickly done.

I piled all the panels into a bin liner and struggled out with the tube, the G11, etc. while the doctor wrote out his cheque. On the way back Les said he wanted a set just like that and a video to go with it. When I ordered these the chap at the other end was interested to hear about our success in fitting the 24in. Pye into the Dynatron cabinet. Apparently he has one of them himself and wanted just this information . . .

Fings aint what they used to be

Les Lawry-Johns

I kid you not. Things are getting awkward. Some of the sets that come in now just don't want to be done and were apparently put together with this in mind. "Don't try to mend me" they seem to say, "buy another one". Even old favourites are getting stubborn. Or is it just me? (Chorus: "course it's you".)

Susan's Fidelity CTV14S

Take for example Susan's Fidelity CTV14S – the Mk. II that is, with the ZX3000 chassis.

"It keeps changing channels on its own and will often switch itself off, though the handset is in the other room."

So I ruled out the handset and its battery. I checked here and there on the control panel, changed chips, but still the set would do it. Eventually I phoned Fidelity.

"The amplifier chip IC1 in the screened remote control receiver section could be producing spurious pulses. To check this, cut the track going to pin 2 of the ML923 decoder chip IC2 and wire a 10k Ω resistor from this pin to chassis. If the set no longer changes channels, change the chip in the receiver unit, then restore the link to IC2 and remove the 10k Ω resistor."

So I did the first bit and the set worked fine all day. I phoned Susan and her mother answered. "Is Susan keen on having the remote control handset?" I asked.

"Of course she is" replied her mother.

So I stripped down the receiver unit and replaced the chip, then restored the link between IC1 and IC2 and removed the 10k Ω resistor. The set continued to change channels and switch off without being told to.

Susan came in to find out about her set.

"It's fine without the remote control facility" I told her.

"I never use it anyway" said Susan.

In a flash the track was open-circuit again and the 10k Ω resistor was fitted. She carried the set off and later reported that the picture had never been so good. This made me scratch my head a bit. What had the handset to do with the picture? Never mind.

Another One

Another of these sets has been causing me a real headache of late. It just won't start. When it was brought in the BU426A chopper transistor had gone short-circuit, the 2.2 Ω surge limiter resistor R80 had burnt out and the d.c. fuse F2 had gone open-circuit. I fitted a BU508A in place of the BU426A and replaced the other items.

When I switched on all I got was a high d.c. voltage reading at the collector of the chopper transistor and at a couple of other points, but no controlled output from the chopper circuit. So I checked everything in sight and changed the TDA4600 chopper control chip. Still no joy. I now found that there was no start-up voltage at pin 9 of the chip due to an internal short. So I fitted another one. This gave me the start up voltage but nothing much else. I've tried a dozen times and Phil had a go all day on

Saturday, all to no useful end. I'll let you know what it turns out to be – the bloody transformer no doubt. No not the line output transformer. I've got plenty of those in stock and I'd opened the h.t. feed to the line output stage and still got no output from the chopper circuit. I mean the chopper transformer. I don't keep those in stock.

A Thorn 9000 Chassis

Now everyone can repair a set fitted with the Thorn 9000 chassis, can't they? One came in the other day with the report that it failed after a couple of hours. I was a bit busy at the time and jumped at the thick-film over-voltage unit. A new one was fitted in no time. The set then sat there working for four hours. The owner came and collected it. Next day he brought it back again and told H.B. that it had failed after a couple of hours, adding that it came back on immediately.

Now he hadn't told us this the first time, i.e. that the set tripped at erratic intervals. I kept it on with the sound turned up slightly so that I could hear when it tripped. This it duly did. The sound went off and the picture collapsed to the centre for a brief moment before recovering and looking as good as it had done. This time I disconnected the tripler, and when this had been done the sound never faltered. A new tripler was fitted and the set gave no more trouble. Silly me!

A Word of Warning

A couple of months ago I told you about us fitting a new 24in. Pye set in Dr. Dicey's Dynatron cabinet. I mentioned that it fitted well and looked out over his lounge. When I say "us", I mean me and Les who ran me up there. I also said that Les wanted a similar job done on his Dynatron.

So I ordered the same Pye model for Les. Unfortunately his cabinet housed a Pye hybrid colour chassis whereas the good Doctor's had housed a Pye 731 solid-state chassis. The upshot is that Les now keeps the cabinet in another part of the room (to house his booze, I think) while the Pye stands on its stand as it's supposed to do.

Transport

I also mentioned that I was waiting to get my car back. I never did. I had to get another one. It's a gold (the colour!) Renault 18. Honey Bunch loves driving about in it and I suppose I'll get used to it in time. It's just that I don't find it easy nowadays to take to anything new or different. Which is why I find it difficult tackling these modern sets and trying to make sense of the circuit diagrams. I thought it was me but apparently there are a lot of others who find it hard to adapt to these new conditions, especially when they have a cat and two dogs to help them. Oh well, never mind, we've coped so far and I dare say we'll continue to do so.

Still Hazy

Yes, I have to admit that I'm still hazy and finding it very difficult to type this note. There are one or two things I must say however.

First, my thanks to Les Austin (see Letters page) for his help with the Grundig set that gave me so much trouble. You remember the 2210 that blows the 1A fuse I fitted in series with the supply to the line output stage? No, Les, it doesn't make any popping noises before it goes. It just goes. You did say that a lot of people cross over the e.h.t. tripler's diode and earth leads. This had happened to the set and on wiring it correctly I found out why. When wired correctly there was no luminance, only chroma. This was due to the 680Ω resistor R528 in the e.h.t. current sensing circuit having gone almost open-circuit, producing permanent beam limiting. Having put all this right the set is now working and I'm waiting to see whether the fuse still fails. Thanks for putting me on the right track.

Thanks also to the other kind chap who called in at the shop to give me a replacement for the small choke (L508) which is wired in series with the line scan thyristor's gate. He told me that when faulty it causes trouble due to the thyristor firing early. I fitted the choke but the fuse still blew. Thanks anyway.

Whoops – the fuse has gone again. Sorry Les: one day I'll find out what's doing it. Fancy the tripler being incorrectly connected and making so little difference.

Now what's all this about and why am I so hazy? Well, you see, at present the heart hasn't the heart to pump sufficient blood to my brain while I'm standing up or sitting down, only when I'm lying down, and I can't do that all day, can I? So I have to take some tablets, but only two per day as they are rather powerful. They work for about an hour, then I sink back into partial oblivion – still able to repair sets, but unable to remember much about them. So, as you can imagine, I'm getting myself into some fine old scraps.

Les Lawry-Johns.

A Different Life

Les Lawry-Johns

I made this astounding discovery the other night. H.B. often claims to see things that I don't, and has often said that an old chap prowls around in the cellar where the living quarters were years ago. I dismissed this as imagination until our next door neighbour Irene told me that an old chap kept coming into their downstairs living quarters. She described him exactly as H.B. had done and told me she'd asked her husband Vic to put up a wooden screen to stop him coming through the wall that separates our shops. If a wall won't stop him, why should a fence? . . . H.B. also says she often sees an old girl in our lounge, constantly rocking to and fro in a rocking chair. I've not seen her either.

Last Sunday evening we were sitting looking at TV with the electric fire on. Tessa was sitting in front of it. She suddenly leapt to her feet and started to bark at the fire.

"She's daft" I said.

"No, she's barking at Trog" said H.B.

You may remember our black female cat Trog who was run over ten years ago – we now have Spock, who pokes her nose into everything.

"Trog's been dead for ten years" I pointed out.

"Yes but she was sitting by the fire until Tessa frightened her away."

I must say that I don't get this. Women and female dogs see things that we don't. Zeb didn't see anything either. I'm not stupid: it's just that females are different I suppose. I thought maybe it's my empty head, which has been funny for some time but is now improving thanks to the vitamin E Mr. Hurran recommended. It takes time though, and I'm still not working properly.

The Philips K35

Take for example the 26in. Philips K35 that came in yesterday. For a while it nearly turned me barmy – when you tuned it in it would go slightly off tune and spoil the picture. When you tune it in you have to open the front flap, which disconnects the a.f.c., so I discounted a.f.c. trouble. I eventually found that the switch was faulty and realigned the a.f.c. coil cores (U157 and U158). The picture then tuned in correctly. Alignment isn't easy as the tuner is too near the a.f.c. coils.

At last we had all channels right and I was satisfied. Terry came to collect it and his wife phoned today to say that although TV reception was o.k. they couldn't get the set to accept the video channel. Oh dear, what a tangled web we weave.

A Ferguson TX9

I was also driven up the wall by a TX9 – one of the ones with a thyristor power supply (PC1040 main panel). It had a good picture except for two well-spaced horizontal lines that revolved slowly. I bridged the electrolytics in the field

timebase chip's supply then fitted a new TDA1170 chip. The result of this was a constantly revolving picture, so I looked for the field hold preset. There isn't one. Of course, it should be a TDA1170S which works with close-tolerance components in the field oscillator department. With the correct chip fitted we were back to a good picture with slowly rotating horizontal white lines.

I then turned to the power supply and checked the electrolytics in this section of the set. They all proclaimed their innocence. At this point the test electrolytic came adrift and shorted to a point lower down. There was a flash and the 1.6AT mains fuse failed. I stuck in another which blew straight away at switch on. After much testing I found that the crowbar trip thyristor CSR2 was short-circuit. So I left this out while I continued to make tests.

The fuse now held and the picture, with the lines, returned as before. I found that the only way I could get rid of the lines was to shunt the power supply efficiency diode D77 with a 470 μ F, 250V electrolytic. This left slight dotted lines that were difficult to see. I was aware that I'd missed something, but for the life of me I couldn't find the real cause of the fault.

I fitted a new crowbar thyristor and wrapped the job up with the extra 470 μ F electrolytic securely fitted inside the cabinet. This made me feel guilty, but there haven't been any complaints.

Another TX9

I'd just got rid of the TX9 when another one arrived, this time with a cracked panel that needed many leads fitted to restore normal working. This was done quite quickly. The owner collected it and was grateful to see the really good picture it displayed. It came back in a matter of hours with a very grainy picture.

"I'm not paying out any more on the thing" grunted the owner.

So I checked it over and came to the conclusion that the tuner was at fault. As the owner didn't want to pay for a new one I pulled off the side screen and the picture came up as good as new. It remained like this for some considerable time, then the owner came and carted the set away again.

It's a fact that removal of one side or the other will often restore normal reception and save replacement of the tuner – except in areas of high signal strength of course.

This left me a bit fed up with early TX9s. The TX10 seems to be a lot better – except for the focus control of course. Mind you they can be naughty at times, and I'll probably be eating these words within a week or two.

The ITT CVC1120

Phil tells me that I must mention the ITT CVC1120 that came in last Saturday. My memory of this is very hazy and in fact I left it to Phil to tackle. The trouble was that the 1A fuse in the power supply kept blowing. Because the owner was an attractive young lady with large, er . . . eyes, Phil was eager to please her. To cut a long story short, he traced the trouble to the 10 μ F filter capacitor C701 which was short-circuit. Well done Phil. I won't tell Sara about the young lady with the . . . eyes.

That's all for now. See you next month.

Thanks a Million

Les Lawry-Johns

What a lovely lot of readers we do have. There's no doubt about it. For example Cliff Mitchell from Bexleyheath popped in last week and presented me with a bottle of Teacher's. A lovely man who remembered that H.B. doesn't like this brand in her coffee so that I'd have to drink the whole bottle neat. I toasted Cliff several times that evening. Cheers!

As he departed Keith and Alex from Portsmouth popped in. They were on their way to Sendz at Southend to pick up several bits and pieces and presented me with a couple of Thorn triplers. Thanks, lads, they'll come in very handy: I've had to ease up on my ordering recently so as not to upset my bank manager – since I've not been able to think too clearly of late I've not been able to make much money. Keith and Alex also sorted out the battery board of a Philips 10CX1120 that had been puzzling me. Although I had the circuit it didn't show what voltages to expect and I had been too stupid to expect a 110V output from the board. Thanks the pair of you – call in again and rescue me anytime!

The Tandberg

This chap came in and asked me to look at his TV set. I asked him the make. Tandberg he said. I thought it would be of Scandinavian origin, but it had "Made in Scotland" on the back. I removed this and peered at the unfamiliar inside.

He said the picture was distorted. When I switched the set on there was hum on the sound and a severely curved picture, so I accused the main reservoir electrolytic of being open-circuit. I didn't have one with the right pins, so I checked the voltage and fitted a 470 μ F, 300V electrolytic inside the cabinet, taped to the cableform that runs under the tube. The resulting picture was lovely and the sound

was clear of hum. I charged a tenner and he went away well pleased.

He came back next day and the new capacitor was a right old mess. I fitted another one and decided to leave the set on test for a while. After an hour I switched it off and left it for ten minutes. Upon switching on again there was a gurgling noise and the new capacitor had once again failed.

To cut a long story short, the switch-mode power supply was not switching on. Without a load the voltage produced by the mains bridge rectifier was excessive, so the reservoir capacitor failed. It transpired that the h.t. preset control was intermittently faulty. A new one, along with a new electrolytic (higher voltage this time, just in case) put things right. The set was tested for a further couple of days before the customer collected it and paid another five pounds.

An ITT CVC9

A friend from the Medway towns brought in an ITT CVC9. He said he didn't have any valves for it so could I fix the set for him? The PY500 boost diode was getting very hot but the PL509 line output valve wasn't. I straight away checked the boost reservoir capacitor, but it was innocent. I checked the PY500 which was also innocent. So was the PL509. When I disconnected the tripler from the line output transformer the PY500 didn't overheat and the sound came on. I stared at the tripler: it shouldn't have caused the PY500 to overheat. Just then I noticed that the beam limiter resistor was cooked. There must have been a leak in the tripler.

Anyway, a new tripler and resistor restored normal operation and a beautiful picture was displayed. The set was a 22in. model. I've never had to replace the tube in one of these in my life. It's a pity that later models didn't have the same tube life span.

More Tripler Trouble

How about that Grundig 2210 that had me by the short and curlies (remember? – last November!). It kept blowing the fuse I'd added in the supply to the line output stage, sometimes after an hour or so, sometimes after a whole

day. The cause of the trouble turned out to be the new tripler that had been fitted a short time earlier.

How did we find out? Well, you'll remember that the set had been given to us. Phil took it home with him and his parents' Grundig needed a new tripler. So he fitted the one

from the 2210. It worked fine for a while, then the cut-out started to trip every now and again. Oh well, as long as we know. Thanks Les Austin (Letters, January) for all your advice on these sets. Sorry it took so long. Some of those resistors had been the wrong value.

What's up Doc?

Les Lawry-Johns

You may remember the articles "What's up Doc?" parts one and two that I wrote some while back. They related to an examination (painful) I had to have and a prostate operation to help remove a swelling on my right-hand side. I still have the swelling, but at least I know that it's nothing to worry about. What has been worrying me is this heart trouble I've mentioned from time to time recently. My doctor made an appointment for me to see a heart specialist about my muzzy head, which doesn't allow me to think straight – or to write straight either.

It took some time for the date of my appointment to come round. I went along to the hospital on March 30th and after a while I was weighed and measured. Then I went in to see the specialist. He asked me what the trouble was and I told him I couldn't think straight because my doctor thought my heart wouldn't pump enough blood up to my brain.

"How long has this been going on?" he asked.

"Since last October" I replied. "I seem to be muzzy most of the time."

So he asked me some questions to see whether my brain was working.

"Who's after Neil Kinnock's job?"

"Tony Benn."

"Who's helping him?"

"Some left-winger. I forget the name."

"How many children has the Queen got?"

"Four, I think."

"Name them."

"There's Charles and Ann and the one in the Fleet Air Arm, my old mob, that's Andrew. And one who wants to be on the stage, er, I forget his name."

"Edward."

That's all he asked. I think. Then he gave me a brief check over and some chits of paper to go and have tests. As I made my way down the corridor I kept seeing people I knew I should have known, but I couldn't think of their names. One of them told me to pop into the X-ray room first and give them my name and one of the chits, then to go to the blood test department to get that over with, after which I'd be first in line for the X-rays. It nearly worked out like that.

I told them in the blood department that they'd find it was largely whisky, and that raised a laugh. But I think I'll get a ticking off from the specialist when I see him again. It's just that I don't like the idea of swallowing a lot of rat poison to keep my blood thin. Well, that's my story anyway.

The girl in the X-ray room told me to undress, upper part only. After the X-rays I dressed and was then called back and told to get undressed again as the machine hadn't seen enough.

The tablets I was given to take are very small white ones. It says on the bottle take half a tablet twice a day. The job is cutting each one in two. Oh well, all in the cause of science I suppose. Back to work.

This Skantic set had a Luxor chassis inside and I spent quite a long time trying to find out why it wouldn't start. Eventually I gave up. When its owner came back I explained that I wasn't thinking too clearly and couldn't do

it. I put it on the bench to show him. Switched it on and a beautiful picture appeared, with good sound. I told him to take it away as I wasn't feeling up to it all.

But if there's one set that doesn't worry me it's a G11. Until this one came along. I'd resoldered all the joints, fitted a new line output transistor, and had the set on test. After a while the picture faded. The sound faded too. Attention to the video panel restored a good picture, but the sound remained low. As it was a remote control version I first tested the audio section on the lower left side – this responded well to tests – then turned my attention to the extreme left side remote control panel. After a lot of seeking I replaced the resistor that feeds the volume control. This restored normal sound, and the set was collected shortly afterwards. It came back next day with the complaint "no sound". I switched it on and received full sound. Oh well . . .

Philips KT3 Drill

Some of our usual stock faults are changing slightly, though they still come in often enough. Take the Philips KT3 chassis. It was common for the tripler to cause audible tripping. We now more often get complete shut down. If the h.t. is present at both ends of the 4.7Ω surge limiting resistor in the power supply, don't waste time – disconnect the line output transistor (remove the connecting screws to its collector). If this restores some signs of life, disconnect the tripler's input lead and replace the line output transistor. If the line output stage now works, bring the tripler's disconnected lead back near to it (beware of the high voltage). If the result is tripping, replace the tripler and write out the bill.

Remember the drill. If the set is tripping, disconnect the tripler. If this was the cause of the fault the tripping will stop and the tube's heaters will light up. If the set is dead, check the 4.7Ω resistor on the power board then, if necessary, disconnect the line output transistor (I didn't say the BU208A, because alternatives are sometimes fitted). It's also wise to disconnect the tripler to prevent the new transistor going up the creek. It may not do so, but it's sensible to protect it in this way.

Is This a Record?

Something that I might claim to put in the book of records has just happened. A car drew up outside and the driver left its engine running as he carried in an old Decca Bradford. He left the door open as well.

"I'd like you to look at this and tell me how much it would cost to repair it."

"If you'd like to leave it, I'll look it over and tell you this afternoon."

"Could you look at it now?"

So I looked, having removed the rear cover. I switched it on and the tube's heaters glowed but the valves didn't light up. I thought I'd start at the beginning, so I switched off and removed the PY500 boost diode, whose heater comes first in the heater chain. The top cap came off and there was a hole in the glass. A check on the heater confirmed that it was open-circuit.

I fitted a new PY500 and switched on again, keeping my eyes on the heaters, ready to switch off in a hurry. The heaters all glowed but there was no sign of life at the PY500's top cap. So I turned the set on its side and carefully slid the chassis out. The 500mA fuse in the supply to the PY500 was open-circuit. I fitted another and turned the set upright. When the set had been switched on again and the valves had warmed up, life returned to the line

output stage. Connecting an aerial produced a picture. The tube was in good order and the sound was clear.

“How much?” he asked.

“Twelve quid” I replied.

“O.k., I’ll have it done.”

“It is done.”

“Make out the bill then.”

So I made him out a bill. He paid up and carted the set out – after I’d replaced the rear cover. He put it back in the car, closed the door (at last), jumped in the driver’s side and drove off.

I ask you. Draw up, leave the engine running, leave the door open and have the set repaired before closing the door again. Can I claim a record – for being a fool?

Outlook Cloudy

Les Lawry-Johns

A customer brought in an ITT set fitted with the CVC30 chassis and full remote control. He complained of no sound or picture, and remarked vaguely about random channel changing after the set had warmed up. I studied the chassis and decided to replace the left-side i.f. panel. Doing this made no difference at all, so I looked at the circuit diagram and saw that I'd marked R28 (820 Ω) with a star. The trouble was that I couldn't find it.

At this point a young friend of mine by the name of Surinder Lakha came in to ask me something. He looked at the set on the bench and asked what was wrong. I told him — basically no sound or vision with the timebases working. "I've had that trouble" he said. "It's the resistor down the bottom." He pointed to the lower left side. I looked there and found R28 looking back at me. Quick as a flash it was out and was replaced with two resistors, of 300 Ω and 520 Ω , in series. I thought they would last longer. The picture and sound then came on and stayed. Thanks a lot Surinder — call in again any time!

If I'd marked it with a star, how come I didn't know where it lived? The clouds are still a bit thick. The set's owner came and collected it. Next day he was back again to tell me I needed sorting out and that he was just the one to do it. I hadn't dealt with his tuning troubles you see. I had a word with Geoff (Moon Lane) about the problem and he referred me to his friend in Welling, an ITT expert. The advice I was given was to replace the SAA1124 chip in the remote control unit. I did this when the set was brought back. It went off again and I've heard no more — I'm still waiting to have my head bashed in . . .

More Confusion

Just to show you how daft I am, the other day I collected a T20 which suffered from intermittently poor focus. I fitted three focus units before I realised that it was a T20 and that the tube base socket was therefore at fault. I keep these in stock and one was fitted in no time, giving perfect focus that didn't vary.

How loony can I get? Now the psoriasis is coming back, affecting my hands, nose and ears. Once I become the Ugly Man my mind should clear despite what the medical profession tell me. I went back to the specialist the other

day. He told me to go back to my doctor and continue with the pills. He hadn't been able to find much wrong with me. Perhaps I'm just going barmy — or getting old.

The Ferguson TX9

A colour portable fitted with the Ferguson TX9 chassis came in yesterday and had me by the short and curlies for a little while. Field collapse usually means that the TDA1170S field timebase chip has failed. This time however the field scan was about two inches high, which gave me a moment's hesitation. Having checked the supply I changed the TDA1170S, but I needn't have bothered as the results were just the same. I next checked the height control and found that there was no voltage here at all. R268 (1.5M Ω) which is in series with it was open-circuit. The old adage still holds good: check that the voltages are right before you do anything else.

The Philips G9

A 26in. Roberts set fitted with the Philips G9 chassis came in the other day, with several troubles. They all seemed to clear when I replaced the lower right side timebase panel. Off it went and back it came next day, for field collapse after the set had been on for a time. This surprised me as I'd replaced the timebase panel. The cause of the trouble turned out to be a poor contact at the top of the left side convergence panel — a run round with the soldering iron cleared it permanently. But it had still needed the timebase panel.

Hey What's This?

What's this I hear? Someone was looking through a 1957 issue of *Practical Television*, as we then were, and came across my article of the Etronic Models ECV1523 and ECV1527. He asks whether the Les Lawry-Johns of today is the L. Lawry-Johns of those days and suggests it's maybe a pen name that several people have used. Not so! I wrote about those sets then just the same as I'm writing this now — well, nearly the same. It seems that the reader who enquired is about to retire. That doesn't mean I've got to, though it might not seem a bad idea. I must give it some thought.

July is a month of birthdays. Surinder, whom I mentioned earlier, has his on the first while Honey Bunch's is on the fourth. Independence Day, yes indeed. Happy birthday love.

Haunted

Les Lawry-Johns

I seem to be haunted by Fidelity colour portables of late. If not of the ZX2000 series, then the later ZX3000 version. One that stopped me in my tracks for a while came in the other day. It was a CTV14S, fitted with the ZX3000 chassis. Its trouble was no green. Checks on the tube base panel revealed that the voltages in the green output stage were way out. It took some time to find that the 100k Ω bias resistor R214 was open-circuit. Fitting a replacement restored the green and my flagging spirits. The equivalent resistors in the red and blue channels are R224 and R204 respectively. So the moral is, if one colour goes check the relevant bias resistor on the tube base panel before you consider changing the TDA3562A colour decoder chip with its 28 pins.

The Philips KT3 chassis is also getting to be all too predictable. Quite apart from the 4.7 Ω surge limiting resistor on the power supply panel and the tripler, which sometimes kills the line output transistor, it's now common to find that the tube is faulty. Sometimes you find that for some while only one colour appears, the other two finally coming on after a struggle. In this event I usually short out one of the heater chokes on the tube base to liven up the heaters so that the lazy colours are not so long in coming through. This seems to satisfy most people. But not Mrs. Grouser.

"I want the proper picture when I switch on. I don't see why you can't do it."

"I can for about eighty pounds Mrs. Grouser."

"What? I'm not paying that sort of money on this old set."

"Well you'll have to get a new one then."

"I will too. Snippers down the road have some nice ones. Quite cheap too."

"O.K. Mrs. Grouser. Just see if they're prepared to repair it if anything goes wrong."

So out she went, hoping to get something for nothing as they all do. Or nearly all.

Pete's 9600

Shortly afterwards this chap struggled in with an Ultra set fitted with the Thorn 9600 chassis. I vaguely recognised him but couldn't put a name to him. H.B. came into the shop from the kitchen. "Hullo Pete" she said. "Hullo love" said Pete.

I whipped the back off. The 2.5A mains fuse on the left-hand side had blown and a meter check showed that the chopper transistor on the right-hand side was short-circuit. I also noticed that the brown lead to plug 511 on the chopper power supply panel had been disconnected from the plug and soldered directly to the panel. "Some rough work has been done on this set" I commented.

Pete looked at me but didn't say anything.

"Pick it up later on?" I asked.

So he left, saying he'd be back before we closed.

When he'd gone H.B. asked me why I didn't recognise him as we'd sold him the set some years ago and had always looked after it. This meant that I'd done the rough work. Oh dear.

Still in a muddle, I prepared to replace the chopper transistor, stupidly unsoldering the base and emitter contacts, one of which broke off. When I removed the two

screws that hold the transistor I was able to pull it out of its holder. So in fact I'd messed up the holder. This took some time to repair, but at last it was done and a new chopper transistor was fitted. I checked the circuit carefully but couldn't find anything else amiss. So I plugged the thing in and switched on. There was a flash from the right-hand side panel and the new transistor was dead. What had killed it? Closer examination showed that plug 511 had a poor neutral lead connection in addition to the previously attended to live lead connection. So the plug came out altogether and the neutral lead was soldered to the panel as the live one had been. If I'd done this years ago when the live lead gave trouble I wouldn't have had to fit another chopper transistor. Very rough work indeed, and all my own fault. Sorry, very sorry.

Another Blunder

A few years ago I sold a Philips CTX-E colour portable to a lady who phoned the other day to say that it had gone wrong. I nipped over and picked it up, not having time to do it on the spot. Back in the shop I plugged the set in and switched it on. Nothing happened. So I slid the chassis out and found that there was a full 300V at the chopper transistor's collector and nothing at its emitter. I searched everywhere and after an hour or so I gave up.

Later on I had another go and this time I looked at the front. The standby light was on. When I pressed the selector button I heard the set start up. All that mucking about over nothing. How stupid can I get? With an aerial connected the sound boomed out but there was nothing on the screen. A bell rang in the back of my mind. When I turned up the first anode control there was a white line across the screen. So I checked the voltages around the TDA3651 field output chip. The supply was present but there were no other voltages. I unsoldered the pins and removed it on its heatsink. It was marked TDA3653. Oh well. As I couldn't find one of these I ended up fitting a TDA3652, which worked just as well. I now had a very bright picture, so I had to turn the first anode control down again. Ten minutes later the set's owner turned up to collect it. She'd got her boss to run her up. What next?

The Next Disaster

The next disaster was a Thorn 9000 I'd sold some years ago. Its owner had mucked about with the fuses. Having got these right I checked the diode (W702) in series with the syclops transistor — on the transistor's surround — and found that it was short-circuit. So I replaced it and checked the syclops transistor itself and the 47 Ω resistor connected between its base and emitter. This was well down in value, so I removed it — the test was made with one end disconnected — and fitted another. I then switched the set on. All I could hear was a soft tripping noise. I disconnected this, that and the other (the tripler etc.) but the tripping continued. So I put the set on one side and got on with some less mysterious jobs.

Having polished these off I returned to the 9000, this time on its side, and found that there was a short across one of the rectifiers (W706) supplied by the syclops transformer. It wasn't a dead short, so I made another check on the other side of the 5 Ω surge limiting resistor R712 and this time found a dead short due to the reservoir capacitor C715 (22 μ F). This was removed and the set was tried again. It started up nicely, so I switched off and fitted a replacement electrolytic. The set behaved itself and sat there as good as gold, waiting to be collected.

The Temptation of Tiny Tim

Les Lawry-Johns

Tiny Tim was having a rest after doing nothing for the best part of the morning. The door opened and in walked delicious Dora. What a face, what a figure. And what a cheek . . . her lips parted as though to give Tim a kiss.

"Would you be kind enough to bring my set in for me? It's a bit heavy for me to carry."

Tim popped out to her car and picked up the Thorn 8800. He carried it into the shop and put it on the counter.

"Can I watch you do it?" asked Dora.

As Tim's wife was out, gassing to everyone up the farm (King's Farm, about a mile up the road), he didn't mind at all. He whipped the back off and plugged the set in, switched on and nothing happened. Next he checked the plug and mains lead, read it through to the on/off switch, then realised he'd fallen for it again. The cut-out button at the back. He pressed it and the set started up. The sound was o.k. and after a short period the picture appeared. It was blurred, so he tried to adjust the focus knob. It was at maximum and turning it back only made things worse.

Tim remembered the time when he'd changed the e.h.t. unit and the focus control several times without improving things and Keith and Alex had popped in on their way back to Portsmouth. Keith had offered to do the job for him there and then. He'd removed the earth lead from the bottom of the focus unit and switched on. There had been an almighty crack from the tube, with flashes everywhere. Keith had then switched off and reconnected the earth lead. On the next attempt the picture appeared in full focus and Keith and Alex had then made their way back to Pompey, having taught Tim another lesson.

Tim thought of trying this again, just to frighten Dora out of her life, but decided against it. He slid the chassis out – with the set switched off – and loosened the e.h.t. unit. After shorting the e.h.t. lead to chassis he disconnected the leads. He walked round, brushing Dora's behind on the way, and selected a new unit from the shelf.

"This will cost you twenty quid" he told her.

"We can talk about that later" Dora said.

So Tim fitted the new unit and switched on. He could now turn the focus control quite a way back and the picture looked good.

"Aren't you clever!" said Dora.

"At most things" Tim said modestly.

He wrapped the set up and carried it out to Dora's car, then went back for his twenty quid.

Dora was leaning against the counter in a suggestive way. "Open to negotiation?" she asked.

Now Tim fancied Dora but, well, maybe it was the weather . . . He's an odd bloke but there are plenty like him. Dora looked annoyed. She opened her purse just as Tinker Bell returned, having cut short her shopping (jawing). Tim took Dora's notes and, as she left the shop, put them in the till.

An Awkward K30

Tim had a Philips K30 that was driving him mad. He'd sold the set some years back to a lady whose husband had been a friend of his and had died two years ago. When she'd phoned to tell him about the set he'd promised to call round that afternoon. He'd gone without a care in the world, taking with him all (he thought) the things he might need.

When he tried the set there was sound but no raster. He replaced the two upper left-hand boards. No difference. He turned up the first anode controls and obtained a blank raster that was locked solid until the aerial was disconnected. So he took the set back to the shop and spent hours trying to find out why the first three transistors on the RGB output board were not turning on. All the supplies to the board were present.

After suffering for a long time he thought he'd let someone else suffer. He took the set along to Moon Lane and handed it to Geoff and Eddy. They laughed when he asked for their help. Two days later he called in to find out whether they'd solved the mystery. They hadn't and the set sat there on the bench, looking at them with the same blank raster. Tim said he was sorry to have given them such a trial. They didn't laugh this time and carried the set down the stairs for Tim and put it in his car. Said they were glad to see the back of it.

Tim settled down to find the source of the trouble but became more and more baffled. The cause of the problem seemed to be lack of bias for the first three transistors on the RGB panel. They are pnp emitter-followers with their collectors returned to chassis and their emitters supplied from the 13V LT3 rail. After a lengthy search Tim found an invisible break in an earth circuit, roughly midway across the main panel near the focus control. Three electrolytics (including the LT3 reservoir) and a resistor are returned to earth at this point. Tim was left very puzzled as the other open-circuit electrolytics and the resistor, which is in the first anode network, should have had other effects. Maybe the break was "made" as far as some of them were concerned.

Still Confused

Les Lawry-Johns

I'm still confused but people keep asking me to do things they can't do. Like the Decca set that came in yesterday. The owner asked if he could stay as he lives a long way from here.

Trouble with Triplers

As it was tripping I started by disconnecting the tripler. This stopped the tripping so I told him how much it was going to cost him. He agreed and I reached for the last new universal tripler. I didn't get it down but instead I looked at the one fitted. As it didn't have a diode lead I decided to fit a spare Philips G8 tripler which was next to the universal one. This was duly fitted and connected – as the e.h.t. lead was a bit short it had to be fitted with the chassis lowered. I then switched on. The sound boomed out and I waited for a picture to appear. And waited. I turned up the brightness. Still no picture.

I checked the e.h.t., which was present, so I moved to the tube base voltages. No first anode supply. Something stirred in my befuddled mind. I cut the mauve lead at the bottom of the right side panel, intending to try an alternative supply. Big sparks came from under the line output transformer, so I hurriedly reconnected the cut lead. There was no model number on the rear cover but I was pretty certain it was an 80 series chassis, so I looked up the circuit, aware that I'd done this only a short time ago. There's no separate rectifier diode for the first anode supply. I then recalled that last time I'd changed the tripler I'd fitted a universal type with the diode and earth leads connected.

So I reached up for the last universal type and hurriedly

fitted it. A picture appeared, too bright because I'd turned up the first anode controls. I turned them down and then turned down the colour to set up a good black-and-white display. Having done this I turned the colour up and the customer commented that it was the best picture he'd seen on the set. I apologised for the delay and he continued:

"You ought to be working in a government factory experimenting with things that won't go right . . ."

He paid up and departed and just at that moment Rick Kinslow drew up in his car. In his hand he had a tripler that looked like the one I'd just changed.

"Have you got a tripler for a Decca Les?"

"I've just used my last one."

He looked up on the shelf. "There's one" he said.

He took down one that I'd taken to be another type, but I could see the difference.

"Take it and try it" I said, ashamed of myself for not having seen it. All the trouble I'd brought upon myself for not looking properly. Oh well.

Processions

I then had to cross the road to post a letter. Half way across I was amazed to see an army of ants marching down the road in perfect step, carrying banners.

"What's that on the banner?" I asked.

The ant carrying it looked up and angrily snapped "it's God of course".

"But it looks like an ant to me."

"Of course it does. What do you think God looks like?"

"Well", I faltered, "God made man in His own image".

"What do you mean His own image? You've given Him a gender!"

"Those males always do" a female ant shouted. "They think they're God and they could well destroy our planet within a few years. Why doesn't their God stop them?"

I ran over to the post box, a bit fed up with these processions that keep coming by. They'd gone by the time I got back.

Still Swimming

Les Lawry-Johns

First I'd like to thank John de Rivaz for his helpful suggestions on medical matters. I think however that for the time being I'll carry on in this daze and see how things turn out. Maybe it's something to do with all those TV sets over the years. It could of course be the effects of whisky, about half a bottle per night, just to keep the blood thin you understand. But it could affect my head as well. Something's wrong, because I can't repair some of the Bush models that keep coming in – the T20s and T22s I've written so much about over the years. Lately they seem to be beating me.

The Decca/Tatung 120

Then there was the Decca (Tatung) set that came in the other day. Fitted with the 120 series chassis. It kept blowing the 1A d.c. fuse in the power supply. I checked the BU426A chopper transistor and found that it was short-circuit, so I looked around for a reason. R810 was open-circuit. It's 150k Ω , so I fitted two 330k Ω resistors in parallel in its place. With these, a new BU426A and fuse the set worked all right, making me feel a little better. But I still wish all these people wouldn't keep coming in and expecting me to work miracles on their sets for nothing, saying things like "I'd do it myself but I haven't got the time".

Arcing

This happened when a bloke brought in a Ferguson set fitted with the TX10 chassis. The focus unit was arcing over and I'd just used my last one. I released the screws that secure it to the chassis, hoisted it up and secured it well clear of the metalwork with insulating tape. After that it performed quite well and the chap was pleased to take it away, tending not to hear me say "on your head be it". A similar sort of thing happened some time ago when I was out of triplers for an hour or two. A Ferguson set was brought in with the tripler arcing over to the metal frame on which it's mounted. I released it from the frame and let it hang down by an inch or two, suspending it in this position with tape. Once again the remedy was successful and the customer departed in high spirits, having had an estimate for a lot of money somewhere else. I'll learn, some day. Cries of "when?".

A Relative's G11

Look what happened when a relative brought in a large Philips set fitted with the G11 chassis. He complained about the bottom of the set scratching the large table on which he kept it at home. Not looking at the set properly I turned it on its side and removed the screws securing the bottom box. When I swung the box open I was surprised to find a large panel containing over sixty i.c.s and lots of other stuff.

"It's got teletext and viewdata" explained my relative. I unplugged the panel and removed it. Next I tucked all the leads inside the cabinet and, after a struggle, removed the housing. The set looked more normal and we swung it

upright to test it. On switching it on there was a good picture with normal sound on all channels.

"You won't get teletext and all that lark" I told him.

"That's all right Les, as long as that bottom bit's no longer there."

I helped him take the set out to his car and he drove off in good humour, leaving me with his unwanted bits and pieces, including the complicated panel. I kept looking at it and felt pleased that I wasn't expected to repair it.

The Decca Hybrid CTV

Here's another example of the daft things that keep happening here. A Decca colour set was brought in, fitted with the late hybrid chassis. The complaint was excessive red. To save me having to think I changed the video panel. The resultant display was nicely balanced. I tried the pushbuttons and tuned one of them for London reception, at the same time noticing that the others weren't all that good at holding in. The owner had said however that all he wanted done was the red picture, nothing else. When he came to collect it I showed him the panel and mentioned the pushbuttons. He said they were all right and agreed that the picture was good. So he paid up and left.

Just as I was eating my lunch the phone rang. It was him again, moaning his head off about the buttons and saying it must be because of the new video panel I'd fitted. I told him that the panel had nothing to do with the buttons, and that there was nothing more I could do as he didn't want to bring it back to the shop. So that's it. He'll have to keep hitting the buttons until they click in.

Well that's it for now. Be seeing you!

Strange Things

Les Lawry-Johns

Some odd things have been happening to sets around here. Take the two Ferguson TX9s that came in recently.

A Couple of TX9s

The first was brought in by a chap from just over the road. He said the colours were wrong – blue faces etc. I told him to call back later and started on it. The faces were certainly blue, as was the colour of the snooker table. I checked everything thoroughly, first the resistors etc. on the tube base panel then back to the output transistors on the main panel. There was nothing amiss so, feeling a bit of a fool, I removed the RGB drive leads from the tube's base panel. Red at the bottom, blue in the middle and green at the top. I put the red lead at the top and the green one at the bottom. The faces then looked all right but the fields were blue. So I changed over the green and blue leads, which produced green fields and a green snooker table. We now had the blue lead at the bottom, the green lead in the middle and the red one at the top. I didn't like doing this and it worried me. The set was left working all day and when the chap came back I told him what I'd done. He looked at the picture and said it was perfect. I asked him whether anyone had worked on the set and he said no.

So what had gone wrong to make it necessary to swap over the drive leads? The manual says that the green lead should be at the bottom, the red one in the middle and the blue one at the top. Surely the cathodes can't change their colours in this way? The leads looked to be undisturbed, correctly wrapped round – now they are soldered on. The set continues to work well. Strange.

The second TX9 came in with intermittent field collapse. I fitted a new TDA1170S field timebase chip and the set worked for several hours. Then suddenly the field collapsed again and when I pulled the chassis out the field scan was restored. I tapped around and it collapsed again. Next I found that there was no voltage at D94, the rectifier that provides the 24V supply for the field timebase. After a lot of mucking about I discovered that the field collapse came and went when pin 12 of the line output transformer was tapped – it connects the earthy side of the winding that feeds D94 to chassis. I cursed myself for not thinking of this earlier and remade the joint. No amount of tapping had any effect after that. Another easy job made difficult by my bungling.

Fidelity Problems

Fidelity CTV14Rs (ZX2000 chassis) never used to give me any trouble. One came in the other week and seemed to work fine after I'd fitted a new line output transformer. Shortly afterwards it came back. This time I found that the BU208 line output transistor was shorting intermittently. On the last time it had done so it had blown the BUW84 chopper transistor. So I replaced both transistors and the set worked fine. Until next morning, that is. When I switched it on there was a loud bang. This time the BUW84 had shorted, blowing the mains fuse. I checked everything and fitted a new line output trans-

former, a new BU208 (just in case), two new bridge rectifier diodes, another BUW84 and a mains fuse. The set then worked normally but next morning there was another loud bang at switch on and I was back at square one. Why should a set that works perfectly when repaired go bang next morning? To cut a long story short, apart from two line output transformers, three BU208s, several BUW84s and of course fuses I must have fitted at least a dozen mains rectifier diodes before the set would work reliably.

When the owner came back I told him what had been happening to the set, and to me. He took it away and gave me back an aerial amplifier he'd purchased a week before, refusing to take any money for it. There are some nice people about – I'd begun to think that they were getting to be a bit thin on the ground.

Incidentally I'd like to thank those nice TV boys in Plymouth who repaired my daughter's Fidelity set – the one I'd given her some time ago. I hope it didn't give them as much trouble as the set just mentioned. I also wish they'd come and fix this CTV14 (ZX3000 chassis) that came in with a blank white screen. The lady who brought it in said there wasn't much wrong with it and I'd be able to do it in no time.

I thanked her and started on it. The screen was bright with white lines across it. So I turned down the first anode knob on the line output transformer and changed the TDA3562A colour decoder chip. With the new chip installed a picture appeared. I'd turned the brightness down, and when the controls were readjusted there was a good monochrome picture. But when the colour control was turned up the picture remained in black and white. She said the set required only minor treatment so I gave it up and returned it. I feel ashamed of myself, but there it is – I'm getting old and don't want to do things for nothing.

The Pye G11

A Pye G11 came in recently with no sound or vision. I did my usual checks before switching on – the mains and h.t. fuses all seemed to be intact. So I switched on and heard the e.h.t. rustle up. But there was no l.t. supply at the lower left side i.f. panel. When the line output panel was swung out I found that the lower, 1A l.t. fuse was open-circuit. After switching off I checked from the fuseholder to chassis. There was a dead short which disappeared when the long socket was unplugged. So I turned my attention to the lower left side i.f./tuner panel, having refitted the socket on the line output panel.

As the short was still present I suspected the 12V regulator. When I removed the power input socket however the short disappeared. I started to frown at this and went back to the line output panel. Removing the socket here once more cleared the short. So what was I up against? A short in the wiring? I checked for this but there were no shorts.

It appeared that the short was present only when the socket was connected. I then did what I should have done in the first place. I again removed the socket, then checked from the fuseholder to the panel's true earth (not the frame). This time the short showed. A look at the circuit suggested that the LT1 supply's reservoir capacitor C1350 was the culprit, and when this was removed all was well. A new 150 μ V, 50V electrolytic restored the sound and vision and after a final check it was time to write out the bill. Another example of making life difficult for myself . . .

The Party's Over – Well Almost

Les Lawry-Johns

It's time to call it a day. Not only the song goes like that. We don't get any younger and the health problems are very persistent. As far as the business is concerned the party is over and we have to pick up the pieces and pay our debts, if we can. Us careful ones haven't got much to worry about but I know that there are a lot who have. Some years back I wrote about my Grandad. He was the skipper of a ferry boat and it was only when he bumped into Tilbury landing stage that it came out he couldn't see. After that my mum had to go across the road to get his pint of beer. The last act was on for him then, and it seems like only yesterday. Some sixty years ago I think. If anyone wants to look up the issue where I wrote up the story it was in October 1979. Yes the party is finally over as far as this shop is concerned. We're moving out soon, into a small bungalow not too far away. So we'll get a bit of a rest, but I'll still do my bit of writing to keep in touch with you.

More Sets

In the meantime the sets keep coming in.

Take the Philips CTX-E for example. The note said "no go". So I immediately dived for the switch-mode

power supply. The BUX84 chopper transistor was open-circuit. I replaced it and plugged the set into the mains again, having left it switched on. Nothing happened. I checked around the BUX84 and found that it wasn't being driven. So I checked through the circuit but couldn't find anything wrong. When the owner came for it I had to tell her that I hadn't been able to find the fault. She left with the set and it was only later that I realized it had been a remote control model without the remote control unit. I hadn't done anything other than plug it into the mains. What kind of fool am I?

To show you what kind of fool, I've been looking through past issues of the magazine to try to refresh my failing memory. What about this? In the March 1982 issue I was rabbiting on about the weather and mentioned about my friend Ridley coming in. "If we keep burning fossil fuels at this rate Leslie, the greenhouse effect will become so serious we'll all be dying of heat."

Ridley was a solicitor, and that was back in 1982. How did he know then?

Well, that's all I can think of at the moment. People keep calling in to look around the shop and the accommodation upstairs. If we didn't own the joint the party would probably have been over some time back.

Here We Are Again!

Les Lawry-Johns

Yes, we're still here, but I wonder for how long?

It's thirty five years since I wrote my first article for *Practical Television*, as this magazine was then called. It was the first one in the "Servicing TV Receivers" series. Seems only yesterday, honest. Many of my articles over the years have appeared under pen-names, such as S. Simon. Did you get the joke I wonder? Simple Simon you see! When I read some of those articles now I'm quite surprised. Did I really know all that? There was also Peter Gaymead Frazer and, going back to earlier days, N. Mead. So I must have been a clever fellow, though I didn't realise it.

There must be many of you who can write a lot better than I can and haven't yet reached the winding down stage. You will though. It seems that in my case I've done so much earlier than most people do. I find myself doing daft things but there have been no complaints so far – except from that lady who is going to sue me for chucking out her set after she told me she didn't want it done as it was going to cost thirty quid to replace the tripler etc. and then left it for some time in the shop. She still hasn't returned the set I gave her in exchange and I do wish her solicitor would stop writing to me. I've told him I'm trying to get a white portable, Thorn 9900 chassis, with remote control sticking out the front, but they seem to be a bit thin on the ground. Frankly I'd thought it was the 9000 chassis, but Keith and Alex put me right about that – they popped up from Portsmouth the other day. I've not been right for a long time, which is perhaps why I've not yet sold this shop though I've bought a bungalow and am now in debt to the bank because of a bridging loan. Not for long, I hope.

Sets still come in, though there are very few of them. I never got around to taking in videos for repair. The family's videos, including our own, are taken to Geoff's at Moon Lane for repair. Geoff isn't upset by this as he too is short of TV repairs. I suspect that there are a lot of you in this situation, what with all these imported sets being sold with guarantees that last for years. They'll start to give trouble eventually, but will it be worth repairing them when spares and data are expensive and difficult to obtain?

Be that as it may, perhaps I can briefly return to those early days thirty five years ago. The editor then wasn't our

John. It was F.J. Camm, the magazine's founder, who had his name up front. F.J.'s brother was Sir Sidney Camm of Hawker aircraft fame – he designed the Hurricane, the Fury and all the other famous Hawker aircraft made before and during the second World War. I could give you a long list as aircraft were my all consuming hobby at that time – I can remember giving lectures on aircraft recognition when I was in the Fleet Air Arm – but this interest began to wane as I worked on the aircraft in this country, Gibraltar and Alexandria (just past the stinking tannery). I still have photographs taken at the time and the memories keep flooding back, more so than of what happened yesterday but I dare say there are lots of you like that.

The Fidelity CTV14R

We had another Fidelity CTV14R (ZX2000 chassis) in the other day. I expected to have to fit a new line output transformer but this wasn't necessary. The complaint was that the picture kept rolling and going off. After a while I discovered that the focus control was damaged. This was no problem since we keep having to remove the focus control in these sets, together with the first anode control, when fitting the ZX3000 series line output transformer. A new focus control was fitted in no time and the picture no longer rolled and hopped on and off. I then noticed the matchstick in the on/off switch. When this was pulled out the switch no longer worked. So in went another, complete with the remote contacts.

I phoned the owner and she agreed to pay what I asked (none of your business!). Anyway she came in later and handed me a twenty pound note and I handed her a fiver.

Colour Changeover

I'm sorry about the set that changed its colours. Should have realised it was the degaussing unit. But honestly the changeover was so complete I didn't think it could be that. The set lives over the road so I'll hear about it if it mucks about again, and so will you.

That's all for now. Anyone want to buy a famed store in a prestige position? Mr. Fayed from Alexandria perhaps?

You Won't Believe This . . .

Les Lawry-Johns

We've had a wall built around the rear garden of the bungalow. Not to keep intruders out but to keep the dogs in. The rear garden has also been concreted, again for the dog's use. As repair business at the shop dried up we moved to the bungalow, with the dogs, cat and bird, hoping that the shop will sell before long.

The bungalow is in a secreted part of a housing estate built well after the war on a site previously occupied by Gravesend Airport, which was used by Fighter Command during the war. When an invasion was expected in 1940 all the runways were mined. The public was not informed of course. All these years later the Royal Engineers have been instructed to locate the long tubes of explosives and make them safe. So two days after we arrived we were told that the whole area is to be examined, using metal detectors, and eventually made safe. What a welcome!

Anyway, we've not been blown up yet and the shop telephone number has been transferred to the bungalow.

The other day a man phoned to say that the Decca TV set (80 series chassis) he bought from us some years ago suffered from field collapse after it had been on for about fifteen minutes. He said that hitting the top of the set restored the picture, so I thought it would be a dry-joint. I told him I would be at the shop in ten minutes. When I got there I waited for him to appear. He didn't. So after half an hour I drove to his house. He opened the front door and said "I thought you said ten minutes?"

"I said I'd be at the shop in ten minutes. That way you'd have avoided the call-out charge."

After removing the right-hand side timebase panel I resoldered all the field timebase connections. I then turned the set round and fitted an aerial. There was a good picture when I switched on. It was still there half an hour later.

I replaced the back and suggested a charge of £20. He flinched. "That includes the call-out charge," I explained.

He paid me and I drove off. Before I got very far I was held up by traffic. While waiting I saw the chap I'd just left chasing up the road, so I backed down to meet him.

"It's gone again."

Back to the house again. When we got there the set looked perfectly all right.

"Blast. It's come back again."

"I bet your wife was upset," I said.

"Oh no, this is my set. She's watching hers in the front room."

I took the back off again and watched for another half an hour. It was obvious that the fault was not a dry-joint as I'd assumed. It occurred only when the back was on and the temperature rose. I'd no hairdryer with me to make heat checks on the components and it struck me that this would be best done in the shop. I told him I'd call later to pick the set up.

When I got it to the shop I managed to create the fault by pulling away at the upper left plug and socket on the right side timebase panel. So I took the panel out and resoldered all the connections. There was a clear picture when I switched on again. After refitting the back I let the set run for an hour or so. Then, confident that all was well, I put it into the estate car carefully and returned it to Mr. Evans.

I was similarly gentle with the set when I got to his house. I plugged it in and connected the aerial. There was a white line until I clouted the top of the set and a picture appeared. This was too much. I returned the £20 and apologised. In fact I practically ran out of the house. But I've an idea that the set will be all right after this.

The Midday Clinic

When I got back to the bungalow the phone was ringing. A G11 I'd repaired several weeks ago had gone wrong. I asked the owner to bring it to the shop at about twelve the following day. Shortly afterwards a lady rang to say that her ITT portable had a funny fault – the sound would go off until the aerial plug was waggled about. I asked her to bring the set to the shop midday tomorrow.

So just before midday I packed my stuff into the car and sped off down to the shop. The G11 was the first one to arrive. The holder at the back didn't hold a remote control unit. I switched on and a red light appeared. Nothing happened when I pressed the button, and switching off and on again made no difference. There was life on the power supply panel, but only 50V at the fuse. I checked here, there and everywhere but couldn't get the h.t. to rise. The reservoir capacitor was of the blue welded type. I'd fitted it some time ago and it checked o.k. After spending some time checking through the power supply circuit I'd got no further and gave up. Another failure.

Shortly after the ITT portable arrived. I removed the cover and found that the sound came on and went off as the coaxial aerial lead was juggled about over the tuner and i.f. unit. No dry-joints could be seen when the chassis was taken out, but I did find that when the tuner etc. was held in one position the sound didn't go off. So I fitted a wedge. I showed the lady what I'd done and explained that in my opinion the fault was in the tuner-i.f. unit, but that I didn't have a replacement. She seemed happy enough and left me a pound for my trouble. I know that I should have removed the unit and stripped it down, but I didn't have the patience. Sorry.

Another G11

Another call had come in while I'd been away. A G11 with field collapse. When I arrived at the house I found that the owner was the best friend of an old friend of mine, so I resolved not to give up this time.

After removing the rear cover I checked that voltage was present at the TDA2600 field output chip. I then fitted a new TDA2600, with the clip under it, and refitted the heatsink. The line was still there. I told the owner I wouldn't be long and sped off to the shop, hoping to find another panel. As luck would have it I'd kept an old G11 with a duff tube. After extracting the upper left panel I hurried back to the house and fitted it. I crossed my fingers and switched on. The picture appeared and I was greatly relieved.

I felt guilty about charging them £25, but they seemed to be quite happy and I went off with the faulty panel. I'll find the fault on it when I have time. Meanwhile all the best to you all.

A Day in the Life of . . .

Les Lawry-Johns

I'd been at the shop on the previous day and decided to pay another visit after lunch to make sure that everything was all right and to attend to any customers. As there weren't many I thought I'd pop into the Coach and Horses next door to have a word with the landlord Dave. Perhaps he might know about the surveyor who'd called at the shop yesterday? I knew that he was looking it over on behalf of a building society, but didn't know who had initiated the interest. Dave's son had been looking around lately, and I felt he might know something. He didn't, so I sat back and started on my half of bitter, which is all I drink when driving.

A magician friend of mine sat nearby, with his daughter and her husband. I showed them the August issue which contained those lovely letters about my retirement. I've said thanks before for all your good wishes, but must do so again. I really didn't know you cared so much.

After finishing our drinks we went our various ways. Shortly after I'd returned to the shop Bob appeared. He looks after the radio bits and pieces at the local hospital and entertains the patients with music etc. With him was the hospital's IIT TV set which had given up the ghost. He plonked it on the bench and after removing the rear cover I switched it on. Apart from the degaussing buzz there was no response. It was an ex-rental set and I'd not seen one like it before, so I can't tell you the model number.

H.T. was present at the collector of the line output transistor, and when I went on to check the components in its base circuit the set started up. So I switched off and checked carefully for dry-joints. There were a few around the coil in the base circuit. After resoldering these and some more in the vicinity the set started up each time I

switched on. I replaced the back and asked Bob for a couple of quid. He insisted on making it a fiver. So I wrote him out a bill and he carted the set off happily. That was about all the servicing required. A few friends popped in to pass the time of day, and shortly afterwards I locked up and drove back to the bungalow.

That was yesterday. I was up early this morning. Slide out of bed and step carefully over the dogs. Then start to dress, making a point of pulling my socks on whilst standing up. I'm determined to keep this up because when I have to sit down to do it I'll know I'm really getting old. Dressing complete, I walked up the road to collect the morning paper. We don't have it delivered to ensure that I keep active first thing. Back for breakfast and to feed the cat who won't live in the house but spends her time out on the roof of the shed. I hope she'll change her mind about this when winter comes. Spock's over sixteen now and won't last much longer.

After H.B. had departed on her morning's run around I looked out and saw someone familiar coming towards the front door. It couldn't be, but it was. Stan from SEME. He looked over the bungalow and the dogs didn't bark once. They know him well. After a few pleasantries Stan departed, without an order. H.B. returned shortly after and announced that one of her daughters wanted a remote control unit for her Philips TV set. So having seen Stan off I had to phone SEME for the unit.

Later another of H.B.'s daughters called, bringing with her an Alba PTV10 portable radio/TV set. I couldn't get a reading across the mains input, so I checked the transformer. It said there was a thermal fuse in series with the winding but I couldn't find it. In fact I destroyed the winding while trying to do so. Another order to make.

A Bout of Despair

Les Lawry-Johns

When an old friend carried in his almost new colour portable I thought it was going to be a five minute job. I started by assuming that it was a Fidelity receiver hiding behind another name (Goodmans), but though I looked here, there and everywhere I couldn't find the correct circuit diagram. It seemed to be similar to the ZX3000 chassis, but the layout was different. The line output transformer was at the rear centre. It looked like the one in the earlier Fidelity ranges, with the integrated focus and first anode supply knobs sticking out. The chopper transistor and its control chip were where you'd expect them, on the left side viewed from the rear, but the chip was a TDA4601 instead of a TDA4600. I checked the legs, and they seemed to have the same layout. Anyway, as the set wasn't working I fitted a TDA4600 and checked the voltages, which all seemed to be low.

Perhaps there was an overload? I checked the line output transformer etc. carefully and got nowhere. In fact I spent a whole week on it, checking this, that and the other. When I say a whole week what I mean is that during the course of a week I spent several hours on it without achieving anything. I don't spend all that much time in the shop nowadays – I suppose I'm getting lazy in my old age. Finally I decided to let someone with a more active mind have a go. So I carted the set off to Geoff in Sun Lane. He kept it a week and then asked me to collect it before it drove him barmy. He'd thought it was the line output transformer loading down the supply, and I'd run one up to him just in case I'd made a mistake earlier. As it was my last one I ordered another from SEME Stan, along with some other items I might require. Geoff didn't need the transformer however as the replacement didn't make any difference. So out it came and back went the original. He also checked the field output stage, in case an overload there was shutting everything down.

What was I to do when it came back? I assumed that there was a problem with the start-up system, and ordered a TDA4601 just in case. This didn't make any difference either, so I got down to checking every component in the chip's supply circuit, taking each item out in turn to be sure. In due course I came to a 100 μ F, 25V electrolytic which acts as the reservoir capacitor for the start-up and also the running supply to the chip – it's connected to pin 9. I checked it carefully and it claimed to be in order. Substitution seemed to be a sensible double-check however, and when a replacement had been fitted normal results were restored.

At this I went into seventh heaven. I can't tell you the hours I'd spent checking various possible culprits, as well as phoning up everyone I thought might be able to help. I feel ashamed at troubling so many people, but there

you are – all because of an electrolytic that tested o.k. The start-up feed comes via a 15k Ω resistor, and I noticed that one end of this is very close to the h.t. fuse. Maybe the electrolytic had been disturbed by a nasty shock at some time. If all this sounds trivial to you, just wait until you get something like it!

Things have been much as usual here apart from that wicked set. The shop still hasn't sold, the cat still won't come in, the two male dogs still can't agree not to fight, the weather seems to be getting colder and H.B. has decided to sell our car which I've just taxed and reinsured. She's going to sell it to her sister's husband who is not having much luck with his car at the moment. Our Renault 18 has been very reliable and just as it's in sparkling form she's going to pass it on. Apparently we are going to get a smaller car, a Renault 5 or something like that. I don't seem to have too much say in our business lately.

The Lady with the CVC5

As I was jotting that down the phone went and a sexy sounding lady asked me to call and look at her set which had gone on the blink. It turned out to be an ITT CVC5 that had been left on with a faulty tripler. This hadn't done the line output stage much good of course. A new tripler and a PL509 line output valve restored fairly good results, but I replaced the PY500 efficiency diode as well in case it had suffered. What about payment? It seemed that the lady had other ideas. Other than cash, that is. But I didn't fall for it and asked for my money. I told her I was sixty six and couldn't even if I wanted to. After a small argument she paid up and I departed in haste.

A Waltham Portable

An old customer phoned to say that he wanted to bring a Waltham portable along to the shop. I got there just in time and when I put the set on the bench I found that there was a small, dark picture, with pulling all over the place. I thought it would be the reservoir capacitor, but bridging this with a 4,700 μ F test capacitor made no difference. I then looked carefully for a cracked track as I'd had this trouble with the panel before. All relevant tracks showed continuity however. So I dabbed around with the 4,700 μ F capacitor to see whether I could find a point where it did any good. At one point the picture cleared up wonderfully, though there was still a slight gap at either side of the raster. I couldn't see exactly where this point was – it was not far from the bridge rectifier. As I wasn't prepared to argue about it I left the set on soak test for a while. I then ran it back to its owner and showed him it working with a good picture. He paid his fiver (he's an old man) and I departed for the bungalow.

I'm getting worried about having this bungalow since the bridging loan is costing me plenty and the shop just doesn't seem to attract any serious buyers. I feel sure that something will happen soon however. Is anyone out there interested?

Video Trouble

Les Lawry-Johns

A belt in our Fidelity VCR broke – I'm told it's a Fisher-Sanyo machine. Now I've never repaired a video recorder in my life and don't stock the belts, so I ran down to Geoff's place in Sun Lane. He fitted a new belt and tested the machine. I took it back home and it worked all right for a week or so. Then severe hum bars started to show and you couldn't watch the picture. Back it went to Geoff who kept it for a week or so because it wouldn't record the sound.

Eddy who works for Geoff had replaced some rectifiers to cure the hum bars but didn't seem to want to spend time on the loss of sound recording. Something in the i.f. panel he said. I took it home for Honey Bunch to play with. She was able to use it to play our recorded tapes but wasn't pleased about the sound recording problem and kept on at me to have a go. If Eddy couldn't find the cause of the problem, what hope had I? After some days she visited one of her daughters and came back with an elderly Sony Betamax machine. This frightened the life out of me but, with HB's son-in-law, we managed to get it going and it performs quite well. We have to have a machine so that HB's grandson can watch "Home and Away" and "Neighbours" after we've collected him from school in the afternoon.

I feel guilty about this lack of adventurousness but don't like to risk mucking things up. I still tackle TV sets

of course but the call for repairs is not great nowadays, as you probably know. There are quite a lot of Ferguson portables around with dry-joints causing intermittent field collapse however.

Then there was this chap who brought in a TX10. Said it kept cutting out. He left it and I immediately checked the focus/e.h.t. unit on the right-hand side when viewed from the rear. As it was blackened I disconnected the bottom screws and hung it free as a check – I was down at the shop, and my new focus/e.h.t. units were back at the bungalow, so I had to check as best as I could. The set worked all right, showing a faded BBC-2 picture. Then suddenly there was a flashover in the faulty unit and the h.t. fuse failed. The chopper transistor had shorted, so I had to fit a new BU208A. After doing this I popped back to the bungalow for a focus/e.h.t. unit – the modified type.

When this was fitted the picture was reliable but was faint and lacked green content. I turned up the green at the c.r.t. base but the tube was obviously low. So I took the chassis out, turned it up and shorted out the resistor that's in series with the c.r.t. heaters. The heaters then glowed a bit brighter and the picture slowly improved: after a while the greens returned.

When the owner returned I showed him the picture and told him that it would improve with use. There was a problem with the remote control system, which would give only even-numbered channel selection. I couldn't find anything obviously wrong with the cables and contacts and, as the owner didn't seem to be too concerned about this, I wrapped the set up. Perhaps someone familiar with these sets would like to comment on this symptom?

What will 1990 Bring?

Les Lawry-Johns

Not a lot, I suppose. But at least we're still here. So many seem to have popped off recently. It makes you feel you're cheating by keeping going, but I suppose that there's still room for us even if we have to do without some of the things we'd become used to. As I sit here I'm crowded in by three dogs and a bird: dogs on the left, bird on the right. I don't know which is worse. The dogs keep quarrelling (quietly though) while the bird runs around her cage as though there's someone after her. Honey Bunch has gone out to do some shopping and, no doubt, gossiping. I mustn't say too much, because she'll read this before I send it in. But, good lord, don't I gossip as well?

There's not a lot to tell you about sets. That Fidelity VCR is still playing up. First there was no sound, now it buckles the tapes. However, we've still got the Sony Betamax machine, though the heads have needed cleaning several times – after a certain tape has been played I think. I clean the heads with my finger sprayed with Aero-Clene. A lazy man's way of doing it no doubt, but it seems to work. Sorry about that . . .

Some TV sets have been attended to, and that seems to be about all I've been capable of recently. A shorted diode in a Ferguson portable had blown the mains fuse, and there was a far eastern set with a faulty line output transformer. I couldn't do this one because I didn't have the transformer to fit in it. Anyway, it was only a few months old so still under guarantee.

The owner's complaint about an ITT set was that the aerial socket needed fixing because the picture and sound kept failing. I repaired the socket but the signals

kept going because, as I found out after a while, of a dry-joint at the base of the tuner unit. It didn't look as though it was dry, but it responded to tapping. So I scraped it clean and resoldered it carefully. The signals didn't go off after that.

You may wonder how I can do these jobs. It's because the shop still hasn't been sold. It went into auction the other day, but hardly a sale was made (few reached the required price, including mine). So I suppose I'll have to keep hoping that someone will come along to clear my enormous bank overdraft. I've had offers, but they wouldn't clear my debt to the bank. When I look round at the dogs, cat and bird I wonder if they know more than us. They seem to get along without all the worry and trouble we've made for ourselves. We have to be clever and keep on inventing things like TV sets and so on. Where do we end up? Up to our ears in debt, that's where . . .

I've recently had a couple of jobs from the same house. One was a Grundig set that I had to cart off to the shop. There was reduced field scan at the bottom of the raster, but when I got the set on the bench nothing seemed to be wrong. I stripped it down and resoldered everything to do with the field output stage. After that I couldn't make the set do anything wrong however much I probed around. So in the end I took it back and explained the situation to its owners.

They asked me to look at another set of theirs, upstairs. Up I went to look at a dead HMV receiver, one fitted with the Thorn 9500 chassis. The mains input was o.k., so I went along the back to the red button cutout. This was open-circuit and I just happened to have a spare one in my case. After fitting it the set came on all right. I charged them £15 for the trouble and they paid up happily. I've been expecting them on the phone ever since about the Grundig receiver, but I've not heard so far. Maybe the soldering has been successful.

Well that's all for now. My best wishes to you all for 1990.

removed the cover of the fuse. The fuse came out as well of course. It was blackened and had obviously been damaged by poor contact. The fuseholder was cleaned and the contacts tightened, then a new fuse was fitted. It no longer smelt and the job was finished. I told the owner that he wouldn't get the smell again and he departed in high spirits.

I was subsequently asked to repair a Grundig set and agreed to have a look as I knew the owner. He brought it in and told me that there was no sound or picture at all. So I removed the rear cover and started to check the line output stage etc. As this appeared to be in order I spent some time checking around the tuner. Nothing seemed to be wrong so I turned to the front of the set and twiddled the control knobs. The screen lit up, with dots, and the sound hissed. I tuned the buttons down to our transmitter and got a faint picture with sound. The results were the same when the aerial was disconnected. An examination of the aerial socket showed that it had seen better times. When a new one was fitted the picture looked as good as new and the sound was perfect. I launched into a fever of abuse but the owner maintained that the screen hadn't lit up and that there had been nothing at all from the speaker. Oh well, we can't all be perfect, can we?!

A Philips G11 I was called to did funny things after a few minutes. So I took it down to the shop where I had it working on the bench for a couple of hours. As it wouldn't do anything wrong I had to take it back to the owner. She phoned later to say the fault had reappeared, so I had to repeat the procedure.

This time it did do funny things when I had it on the bench. After about an hour the bottom of the picture came up, with a white line indicating compression – about half way up, actually. I tapped around the field output stage gently, and this immediately restored full scan. So I had to wait for the fault to put in another appearance – it couldn't be made to occur by disturbance. Eventually the bottom came up again and this time I was gentler, disturbing things with my fingers. It was only when I gently rocked the TDA2600 field output chip's heatsink that the fault cleared. So out it came and the socket was thoroughly cleaned and sprayed. Then back went the chip, the clip and the heatsink. I gather that the fault hasn't occurred since.

The same owner then brought a Philips KT3 along. She said that it had been working well until one day when it had started to click at switch on. I removed the rear cover and disconnected the tripler from the line output transformer. The sound then came on and there was plenty of life from the transformer. Assuming that the tripler was responsible for the trouble, I removed it and fitted my last one. You can imagine my annoyance when the set tripped just as it had done previously. I had checked for discharge from the e.h.t. cap and there hadn't seemed to be any. Nevertheless I removed the cap and carefully cleaned the area around it. The set then came on and didn't click. I cursed myself for being too quick to accuse the tripler. How can I carry on when I'm so stupid?

That's the problem you see. Something wrong with my head. Probably what should have happened twenty years hence. It started about three years ago. When I went to the doctor about it he said he thought it might be my heart. It wasn't, so I can only assume it's something to do with ageing. The trouble is that it's getting worse as time goes by. What with that and the shop, things are bad.

Things Ain't So Good

Les Lawry-Johns

They're certainly not. The shop still hasn't sold and not many jobs are coming in. Those that do take me ten times longer to sort out than they used to do.

Take the set I collected the other day. I'd looked at it before but it had refused to go wrong. I was then told that the bottom of the picture came up after several hours. To about half way. I took it down to the shop and spent several hours trying to find the cause of this. It appeared to be a TX90, but there were some differences in the field output stage. Eventually I changed the transistors and diodes. The diodes shorted and I found an open-circuit resistor in the feed to the output stage. Its value appeared to be 12Ω , but when I fitted a replacement of this value the diodes again shorted. The lower transistor also appeared to have been damaged. So I went more components, including a 22Ω resistor this time. The field scan now opened up, but with bottom compression. This was overcome by altering the value of a couple of resistors – there's no linearity control. If all this puzzles you, the name on the front was Logic instead of Ferguson. The main panel was mounted flat in the middle, not upended on the left-hand side as with Ferguson sets.

Someone then phoned to say that his GEC colour receiver was smelling. I thought that this might be due to the tripler, so I asked him to bring it down to the shop. When the set arrived I switched it on and the smell came up. On sniffing around I found that its source was the upper left-side mains fuse. You could see that its black cover had been melting. So I unplugged the set and

The House Husband

Les Lawry-Johns

Well here I am, still trying to get used to retirement: confined to the bungalow and wondering what to do after I've done some of the jobs a housewife does. I never realised how hard they work and the different things they have to do. H.B. goes out most mornings to earn a few bob and I'm left to my own devices. I suppose I'll get used to it but I don't know when. The shop hasn't sold yet and I don't suppose it will for a while. If things don't change I might even rent it out to someone. At least that would help me pay the bank a little of what I owe it. I still get a few jobs, some of which might interest you.

For example the Philips G11 set I had to pick up the other day. There was only a vertical white line in the centre of the screen. This told me that the line timebase was working but the line scan coils weren't being driven. On inspection I found that the scan coupling capacitor C3135 (0.91 μ F) had bulged out. When it was removed and checked it proved to be open-circuit. I found a replacement of the same value and rating but of more rectangular shape and fitted it, ensuring that it didn't touch any nearby components. When the set was switched on again there was a full raster but no vision or sound. I had to tune in all the stations as the owner had probably tried retuning in an effort at clearing the white line. It was then soak tested for a while before being returned to the owner who was pleased that it had been done so quickly – and cheaply (I can't bring myself to charge the current rates).

The next set I had to visit was a Bush one fitted with the Rank T20 chassis. This had no visible picture. The e.h.t. was o.k. so I took the coward's way out and increased the first anode voltages. This produced a picture but I'd forgotten the brightness network, so I couldn't do the job properly. The customer seemed to be quite happy however so I left him with it. I know a resistor had gone high in value but I didn't have the circuit with me. I may go back and do the job properly one day: when he calls me again for something else.

Then there was the Philips K30 with a scrambled picture and poor sound. I'd repaired the set some time ago – removing the aerial socket and repairing it. I thought that the present trouble would be a repeat performance but when a screwdriver was placed in the socket a much better picture was resolved. So I checked the cable from the VCR and then connected the main aerial cable to the set directly. The picture was till scrambled and as the plug and cable were o.k. I had to refer the owner to an aerial rigger. I used to put up aerial cable to the set directly. The picture was still

The jobs are not all that many, which is why I'm not writing so much. It's mainly a question of doing things like peeling the potatoes, which I'm doing while H.B. is out teaching her daughter to drive. Nobody did that for me. I had to teach myself on an airfield in Egypt. The

second time I drove the lorry a Chief Petty Officer hailed me down and asked for a lift. As I was driving he commented "you blokes amaze me the way you can handle these vehicles". I didn't like to tell him I couldn't drive and wasn't licenced. A few nights later I was in charge of the night guard and had to post several men around the airfield. It was coming up for midnight so I popped over to the marine section and borrowed one of their lorries. While I was driving it around the hangers the port side wheels slipped into a hollow and the whole thing turned over. Luckily no one was hurt but we were unable to turn it back up. I waited till the next morning before reporting it and was subsequently charged and brought up before the C.O. As the officers from my squadron appeared on my behalf I got off lightly. A month's stoppage of leave I think, which didn't mean much being stuck out there. It's funny that I can remember such things that occurred fifty years ago but can't remember what happened yesterday.

But I can remember popping down to the shop when who should turn up but Beardy and Nonbeardy. This surprised me after the dust up we'd had on the previous occasion. They carted in a Philips K30 and said that it went off a few moments after it was switched on. When I switched it on I could hear the sparking. After removing the back cover I saw the arcing around the e.h.t. cap. I switched off and to my surprise the cap wasn't even clipped on. So I cleaned the area around the top of the tube and sprayed it with antistatic solution, then looked at the cap which was in a sorry state. I had to clip it off and look for another one, then peel the insulation back to prevent further discharge. Having done this it was just a matter of soldering the leads and pulling back the covering. When I clipped on the cap and switched the set on it came to life and stayed that way. After refitting the rear cover it was time to face the intrigued two.

"That's that" I said.

"Is that all it was?" said Beardy. "We don't have to pay for a little thing like that, do we?"

"Oh yes you do, and the next time you can try to do it yourself" I commented, wondering whether they would remember to discharge the e.h.t. cap to earth as I had done if they did try. After a struggle I managed to get £15 out of them before they left, vowing never to return to such a pricey establishment.

When I got back to the bungalow Stan from SEME called, not to take an order but to see if I was still alive and to see H.B. He left me the latest SEME catalogue which is full of interesting things. After he'd gone H.B. started on me.

"That cassette in the car is mucking about all over the place."

I'd fitted it only the week before and it was brand new. So that's another job I've got to do. I suppose I may get around to doing it one of these years . . .

Triple Trouble

Les Lawry-Johns

I got up and stood to get dressed, as I've always done though some of you don't believe it. You see it's always best to do things the hard way, then when things get really hard it doesn't seem too bad.

The Grundig that went Bang

When I'd done the cleaning etc. I went out to pick up a TV set. After a bit of an effort I found the place. The old girl told me that her son had replaced the fuse in the set but that it had blown again straight away. It was a Grundig CV720KT/C7400GB, which I'd not come across before, so I carted it downstairs, bunged it in the car and told the owner I'd bring it back within the hour. This seemed to surprise her somewhat.

Back at the shop I took off the rear cover and looked at the chassis. It was a rather small, horizontal one with a few plugs and sockets. There was just one screw to the right of centre, the rest of the panel being held by clips. Having freed this lot and disconnected the plugs etc. I removed the panel and examined it closely. My meter showed a dead short, well almost, across the mains input. It was nothing to do with the degaussing. The meter led me to a bridge rectifier which when removed proved to be the offender.

I looked high and low for a suitable replacement but couldn't find one. So I popped along to Geoff's in Sun Lane and got one from him. As it was larger and the leadouts were different I had to insulate them and turn them over to fit into the right holes. After making sure that I'd fitted it properly I replaced the panel and plugs etc., switched on and plugged in the aerial. There was a good picture and sound. I put the back on and loaded the set into the car, which is easier said than done as it's a small one nowadays. The old girl was delighted when I carted it upstairs and fitted it where she wanted it to live. She paid up happily and in no time I was back home with the dogs and H.B.

"What have you been doing?" she asked.

"Well I've already seen to an old girl," I replied, "and left her very happy I might add."

"Really, after all these years?"

"Just a question of a bridge" I replied, wondering what she would think of next.

Fuzzy Picture then Smoke

For some reason this made me think of another lady I'd visited recently. She'd given her address as number 68 on a certain road and asked me to collect the keys from number 74. When I got there I was surprised to find number 74 next to number 68 and wondered what had happened when the houses had been built. Anyway the lady from number 74 let me into number 68 where I found an ITT CVC5 on the table. Apparently the picture had gone fuzzy then smoke had come from the set. So it was another case of taking the set to the car and the problem of getting it in. I told the lady I'd be back shortly and sped off to the shop. Getting the set in and on to the bench left me breathless, but with the back

removed and the cover taken off the right-hand side line output transformer assembly I could see what had happened.

The line output transformer tag that's connected to the PL509's top cap is also connected to the tripler. The latter lead's insulation had broken down and was shorting to the focus assembly, hence the fuzziness complained about initially. Under the bench I found a stout lead which, after pulling out the three wires, proved to be an adequate cover for the faulty lead in the set. When I'd fitted the cover I arranged the lead clear of the focus assembly and resoldered it to the line output transformer. I then checked that there were no shorts across the h.t. line etc. As everything appeared to be in order I switched on. After the warm-up period a good picture appeared. I left the set on test for a while then returned it to the owner who was now back at number 68. She was happy to pay me my charges after seeing the picture and listening to my puffed voice.

Transport

If you wonder why I get puffed getting sets into and out of the car it's because of the layout. There are just the two front doors, and if a set is put on the passenger's seat it gets in the way of the gear change etc. So I have to move one of the seats forwards and plump the set in the back. H.B. sold the estate car to one of her relatives you see and got this miniature vehicle from another relative, thinking that I wouldn't be doing any more repairs. I keep my mouth shut and put up with it though I'm not happy with the situation despite the reduced petrol consumption.

Back at the Ranch

Having been in the navy you'd think that I would have a preference for rum. Well I did, for a time. After a spell on beer I got on to whisky, which is where the small amount I make on repairs tends to go, me drinking it neat and H.B. taking it in coffee - black with one spoonful of sugar - which I would have thought would water it down. Anyway, I decided to try it like this one night and ended up more sloshed than I did with the neat whisky. Strange that. Maybe it's something to do with my brain: I've not been able to think straight since I reached sixty five.

You might think that the reason this piece is called Triple Trouble is something to do with triplers. It really relates to the dogs however. They haunt me all day (and night). All Alsatians, Tess who's the oldest and largest, Zebardi and Gunga - he's the youngest and causes more trouble than the other two put together. The cat still won't come in. She lives outside, sleeping not in the house H.B. made for her but in a car that's been bunged in the space next to the bungalow. Then there's the bird that still has the grudge against whoever puts his finger in her cage. Possibly something to do with having keen kept in an army camp and jossled by the squaddies.

Liquorish Paper

I'll just stop a minute to roll myself a cigarette with liquorice paper. Hard way to have a smoke but I told you that I always take the hard way. Another thing is that hand-rolled fags go out quickly when left. So they don't cause fires like those packet ones. I should get a discount on my insurance but I don't. That's enough for now. Cheers to you all.

The Changing Scene

Les Lawry-Johns

I'm sharing the shop at present with S.K. Lakha, who tends to show me up. Take the newsagent's video for instance. I'd spent some time looking at it and got nowhere. Then he brought it in to S.K. who fixed it in minutes. How was I to know that a lamp shuts off the juice to the selectors when it goes open-circuit? Sorry I missed out on that one. I'd better read the magazine more thoroughly, because it was mentioned some time ago in a series of articles in this book of learning.

I also had more trouble with that CVC5 I wrote about a couple of months ago. It started to play up again, so I drove down to see it. The owner told me that it was o.k. for a while then the colours changed on the left-hand side. I stayed and watched it for some time. Then on some scenes the picture became green on the left-hand side, reverting to normal towards the centre. This suggested a fault somewhere in the bistable circuit. After fiddling around for some time I discovered that D40, which links the ident signal to the bistable, was faulty. Should have remembered that. But I think the owner will soon buy a new set. It is, after all, just a little on the old side.

A lady phoned up the other morning to say that all she had was a white line across the screen. She said she'd bought the set from me some years ago and that it was a Philips one. So I thought it was a G11, packed my bags with the Philips stuff – chips and so on – and ventured off to her house. When I got there a Fidelity portable looked at me. As it was a Mk.2 version of the ZX3000 I didn't suspect the line output transformer of causing the trouble. But it was a question of carting it off down to the shop, where L.K. was operating. He was working on a video, but wasn't in a hurry. I plonked the Fidelity on the bench and removed the rear cover. "What's wrong?" he asked. "Field collapse" I replied.

"Let me do it" he said. So I let him snoop around on the main panel, checking resistors etc. Then I thought I'd better do something. Like change the field output chip. I looked for one everywhere but had to go down to Geoff in Sun Lane for one. When I got back S.K. was still looking at the set. We fitted the new chip and of course the white line was still present. Back to checking voltages etc. These proved to be more or less correct, so I felt that it was time to change the timebase generator chip. This involved another visit to Geoff – it's a good thing he keeps his stocks high. When this was fitted we had a full raster and I thought that the job was over.

Connecting the aerial lead produced clear sound but no sign of a picture. My defective memory tried to tell me something, but I didn't want to listen. I put my finger about an inch from the line output transformer and a spark leapt out at it. S.K. looked horrified, but I was o.k. "I've been hearing noises coming from that thing for some time" he said. I thought surely the newer type of transformer, with the integral first anode and focus controls, can't do the same thing as the earlier type, but after some time spent looking for picture content there was a crack and the screen display reverted to the white line. It then became clear. The old girl's not going to fork out for a new line output transformer on top of everything else I

thought. I told her the sad story and left her to think about it. We've not heard since so she's probably decided to buy a new set. Oh well . . .

The point is that these Fidelity sets' do tend to suffer from this sort of thing. It starts when the line output transformer sparks over internally. This usually knocks out the video chip and/or the timebase generator chip, depending on the model. So before you go ahead and start to replace the chips, change the line output transformer. With the earlier version this involves altering the focus and first anode supply circuits. All this means that it's wise to get the customer's agreement before you take on the repair.

A G8 that came in later left us in the same position. It seemed to be dead but there was plenty of h.t. It just didn't get to the line output stage because the h.t. fuse was open-circuit. There was no indication of a short-circuit in the line output stage so I fitted a new fuse, crossed my fingers and switched on. A picture appeared but the reds and greens were a bit out. Some time was spent getting this right and I was just admiring the picture when the set went off without warning. More fuses merely confirmed that there was trouble in the line output stage. The customer was told that the repair was likely to be expensive and is still thinking about it – or more likely he's replaced the set. At least I got a fiver for my trouble.

That's all for now. Love from H.B. and the animals, including that bad tempered bird! Finally I'd like to send greetings to my daughter Lavinia who lives with her family in Devon, and to Johnny Logan up north. Lavinia writes for a knitting magazine, producing complicated patterns that are far too involved for us TV people to be able to follow.