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**OPERATING INSTRUCTIONS AND OWNER LOG BOOK**

**TALYLLYN RAILWAY No.2 "DOLGOCH"**

**SAFETY FIRST**

**All our locomotives are safe to run, and will give many hours of pleasure, providing the following safety procedures are followed: -**

- 1. Please read the instructions thoroughly before running for the first time.**
- 2. Always do a complete refill of gas, oil and water. Never refill just the gas to prolong the run.**
- 3. Never let the engine run out of water.**
- 4. When refilling the gas, do not have any naked flame present, and NO SMOKING!**
- 5. Do not pick up the engine by the bodywork, chimney or boiler, especially when hot.**
- 6. Only pick up the engine by the buffer beams and, when hot, use old gloves or a cloth.**
- 7. Do not stand over the chimney. Ejected boiling water or steam may cause serious injury.**
- 8. Do not open the smoke box door while the engine is alight.**

## **General Hints**

As with all operating machinery, whether model or full size, wear will occur. In the model steam locomotive much can be done to help prolong its life and decrease the amount of time required in the workshop for servicing.

Keep the engine as clean as possible, and the motion free from dirt and garden debris. The valve gear, axles and crank pins should be oiled sparingly with light oil, e.g. "3-in-1 Oil". Over-oiling attracts dirt and grit, which will increase wear.

Regularly check that all screws and motion bolts are firm. Do not over-tighten, as this strips threads and shears bolts. **When filling the lubricator, always use a high temperature steam oil; this is available from other retailers. FAILURE TO USE THE CORRECT GRADE OF OIL CAN LEAD TO BLOCKED STEAM PIPES AND WILL INVALIDATE THE GUARANTEE.**

When running your engine avoid excessive speed and acceleration, both will cause premature wear in the valve gear. Prototypically, narrow gauge locomotives ran at a speed of between 10 and 20 M.P.H., and rarely exceeded 25 M.P.H.

## **Positions of Fillers and Drains etc.**

The cab roof lifts up and tilts to the side to give access to some of the fillers.

*The gas inlet valve* is in the top of the gas tank at the back of the cab. The gas control valve is in the cab, disguised as a handbrake and can be operated through the nearside doorway.

*The lubricator* is in the nearside coal bunker. The coal load lifts off revealing the filler plug. Condensed water will need to be sucked out at the end of a run with the syringe provided.

*The boiler water filler* is on top of the steam turret on the boiler in the middle of the cab. Undo the knurled cap to fill with water. The cap can be replaced with a Goodall valve to allow the boiler to be

topped up while in steam. The main steam regulator valve is the handle on the rear of the boiler-filling turret.

***The boiler water gauge*** (sight glass) is on the nearside of the boiler and can be checked through the cab door. If any bubbles occur in the water glass, these can be blown down using the blow down valve which is situated under the cab floor on the right hand side behind the cab step.

***The direction control*** is the lever inside the offside cab door. To operate push gently inwards and move to the desired direction. The control is “gated” and will therefore hold itself in the full forward or reverse position.

***The safety valve*** can be accessed by removing coal load and undoing the grub screw in the side of the dome.

### **Preparation for Running**

‘Dolgoch’ is fitted with a water gauge; this allows the driver to keep the model in steam continuously for longer periods of time. This is done using the Boiler Top-up valve supplied with your loco. We have only supplied the valve as many customers now possess a pump bottle. Should you need a pump bottle you should be able to purchase one from your local dealer.

Always service the engine in the following order; first gas, oil then water.

***To fill the gas tank:*** invert the gas can and apply the nipple to the gas inlet valve on the top of the tank turret. It is advisable to support the loco under the gas tank whilst filling, to prevent the engine tipping backwards. You will know when the tank is full; gas will blow back from the inlet valve in a strong jet. A small amount of gas and air will escape during filling, but the difference between this and when the tank is full is always clear. Always keep the gas can vertical when filling the gas tank. We recommend that Butane gas is used whenever possible, but the gas tank is manufactured to accept

the extra pressures generated by Butane/Propane mix gases, and the burner system will also perform using this gas.

***Filling the lubricator:*** as you will read in the instructions for the end of the run, the lubricator should be left empty of oil and water. Fill up the lubricator with steam oil to about  $\frac{1}{4}$  of an inch below the top. Leave the filler cap off for the present, so that any trapped air can escape. It can be refitted after you have filled up the boiler.

***To fill the boiler:*** remove the filler cap and fill the boiler to no more than  $\frac{3}{4}$  full – this will allow space for the water to expand and steam to form – ideally use filtered rainwater or distilled water using the large syringe provided. Replace the boiler filler cap, check that the lubricator does not need topping up, and then replace its filler cap also. Filler caps should be firm finger tight. They are sealed with a trapped ‘O’ ring and, therefore should not be over-tightened.

### **Lighting Up**

Open the smoke box door; just pull it open by the door handle. Light your lighter/match etc. and gently open the gas control valve until a gentle hiss is heard in the burner. Apply your light into the smoke box and the flame should ‘pop’ down the fire tube and ignite the burner inside the fire tube.

If the gas valve is opened too much the flame will not pop back; it will either fail to ignite, will roar in flame out of the smoke box, or there will be a ball of flame around the front of the engine, which will then blow the whole fire out (after giving the driver a fright)!

When the fire sound has stabilised, after about 30 seconds the gas can be turned up gently. Do not turn the gas up high as the flame could damage the paint on the smoke box door. The smoke box door may be shut after about two minutes. Now leave the locomotive to raise steam.

As the pressure starts to rise this will be registered on the pressure gauge in the offside front cab window - let the locomotive raise at least 50 p.s.i.

## **Running**

When the engine has raised about 50 psi, you are ready to start running. It is advisable to run the engine in reverse first; it clears the condensed water from the cylinders best this way. Before commencing your first run of the day, it is advisable to put a cloth loosely over the chimney for a few minutes, as condensed water will be ejected from the chimney. This is quite normal; the motion of the engine will be jerky until all condensate has been ejected.

**DO NOT stand over the chimney as ejected boiling water/steam could cause serious scalding.**

Place the direction lever into the reverse position, and then open the main steam valve. The engine should start to move off in the reverse direction. When starting from cold it will be jerky, this is normal, as it has to clear the condensate from the system. The more the main steam valve is opened, the faster the engine will go; our advice is to start slowly and learn the road with your engine

After a minute or so, remove the cloth and continue running. In running it is correct practice to balance the boiler pressure against the load being pulled and the track conditions. With a light load and level track the pressure may need to be only 25-30 p.s.i. therefore, turn the gas control down to keep this pressure. When running a heavy train with steep gradients, increase the pressure by turning up the gas.

The ideal running pressure can be learnt by experience and is one of the pleasures of running a live steam engine. There is no need to have the safety valve constantly blowing off (it is what its name implies – a safety vent for excess steam pressure). In all our designs, the gas has been programmed to run out just before the water (although, if fitted with a Goodall valve, the boiler can be topped up during a run), thus it is important not to refill with gas alone in order to lengthen the run by a few minutes. When the gas runs out a complete gas, oil and water service must be done (remember GOW, also remember to shut the gas regulator before refilling, and **DO NOT** refill with gas near any other live steam loco). When the locomotive slows as the pressure falls at the end of

a run, stop the engine. If it is the last run of the day, make sure you suck out any remaining condensate.

### **End of Run**

As previously mentioned, the locomotive will slow (due to pressure dropping) when the fire has gone out. Suck out all condensed water and the remaining oil in the lubricator. The locomotive should be allowed to cool. When cool, clean the engine, check the motion and oil if necessary. The locomotive should always be put away in a clean condition as it attracts less dust and is always ready for the next run (or to be shown to an admiring friend). Always leave the boiler filler valve open so that the boiler will not be strained if subject to any temperature change. It is advisable to store the locomotive where any residual drips of oil or water do not matter.

### **Blocked Gas Jets**

If the gas jet becomes blocked with particles of dirt within the gas, the jet will have to be removed and cleaned. With a spanner or pliers carefully undo the pipe union on the gas control valve. Lift up the gas tank/gas control valve assembly (they are fixed to a base plate as one unit) out of the loco and slide back the pipe and jet holder assembly from the burner.

Holding the jet holder gently in a vice, unscrew the jet. To clear, place the jet nozzle against the inverted gas can nozzle and clear the jet with a blast of gas. Under no circumstances use a pricker wire, this will damage the jet hole. Replace the jet in the holder, ideally using a thread sealant sparingly on the threads. Ensure it is tightened up firmly. Replace the assembly into the burner and re-connect the pipe to the control valve. Ensure this is done up tightly, test **CAREFULLY** for gas leaks, first with a 50/50 mixture of washing up liquid and water, and then if no bubbles are showing, with a flame and the gas “just on”. Tighten if required.

As with all comprehensive models, we strongly recommend a full demonstration (by our agents) before purchase, enabling you to get the best out of your model right from the start.

***HAPPY STEAMING!***

## A Bit of History

*Dolgoch* was built by Fletcher, Jennings & Co. in 1866 and is one of the oldest steam locomotives still in active service. A well tank locomotive with a long wheelbase and the driving axle is behind the firebox, *Dolgoch* was fitted with an unconventional form of Allan valve gear, driven from the leading coupled axle and doubled back to connect to the valve rods. The locomotive was renamed *Pretoria* between about 1900 and 1914 in celebration of the relief of that township in South Africa during the Boer War. It then reverted to the original name *Dolgoch*. For most of the Railway's life, names were painted only on the North side of the locomotives. Polished brass nameplates have only been carried in preservation.

In early 1945, *Dolgoch* was sent to the Atlas Foundry in Shrewsbury to be overhauled. At this time, the railway's only other locomotive *Talyllyn* was worn out. *Dolgoch* returned to service in September 1945 and was the only operable locomotive from 1945 until 1952. Between 1954 and 1963, the locomotive underwent a major overhaul. After receiving a new boiler in 2011, it ran in Crimson Lake livery until 2015 when along with its sister locomotive *Talyllyn* it was repainted in 'Indian Red', the livery carried when delivered by Fletcher Jennings in the 1860s.



## **HINTS ON GAS FIRING CONTROL**

**CONTROLLING THE GAS FIRING OF YOUR LOCO MUST BE DONE WITH CARE AND ATTENTION. TURNING THE FIRE UP TOO MUCH CAN CAUSE GREAT DAMAGE TO YOUR MODEL SUCH AS BURNING OFF THE PAINT, MELTING THE INSULATION OFF THE WHEELS, AND CARBONIZING THE STEAM OIL IN THE SUPERHEATER WHICH BLOCKS IT. NONE OF THE ABOVE DAMAGE WILL BE COVERED BY WARRANTY AS IT IS ATTRIBUTED TO OPERATOR ERROR.**

**AT ACCUCRAFT WE GIVE YOU THE ABILITY TO RAISE A GOOD HEAD OF STEAM BUT IT IS UP TO THE OPERATOR TO CONTROL THE GAS FLOW SO THE FIRE DOES NOT ROAR OUT OF CONTROL AND BURN IN THE SMOKE BOX. IT IS VERY MUCH LIKE THE ACCELERATOR OF YOUR CAR, HOW YOU USE IT IS UP TO THE USER, DRIVE SENSIBLY AND YOU WILL NOT HAVE AN ACCIDENT; PUT YOUR FOOT DOWN AND YOU WILL PROBABLY END UP IN THE HEDGE. HARDLY THE CAR OR THE MANUFACTURER'S FAULT!**

**NEVER LEAVE THE LOCO UNATTENDED WHEN RAISING PRESSURE, AS THE HEAT INCREASES THE PRESSURE IN THE GAS TANK ALSO RISES AND YOU WILL HAVE TO TURN THE GAS DOWN. IF THE GAS CONTROL VALVE SPINDLE IS A BIT STICKY IT COULD NEED LUBRICATION WITH STEAM OIL. WHEN YOU UNSCREW THE NEEDLE VALVE TO OIL IT ALWAYS DO IT WHEN THE GAS TANK IS EMPTY.**

## **KEEP LOCOMOTIVE ORIGINAL PACKAGING**

**WE WISH TO ADVISE YOU THAT IT IS IMPERATIVE THAT ALL ORIGINAL LOCOMOTIVE PACKAGING, BOTH OUTER AND INNER BOXES AND ANY OTHER TYPES SUCH AS SHAPED POLYSTYRENE, SHOULD BE RETAINED. SHOULD YOU NEED TO RETURN YOUR MODEL FOR ANY REASON, EITHER FOR SERVICE OR WARRANTY WORK, IT MUST BE SECURELY PACKED IN ITS ORIGINAL PACKAGING SO AS TO PREVENT DAMAGE IN TRANSIT. IF THE MODEL IS PACKED IN ANY OTHER WAY WE CANNOT BE HELD LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER PACKING. ALL ITEMS COVERED BY OUR TWO-YEAR WARRANTY WILL BE COVERED BUT ANY PARTS AND LABOUR ATTRIBUTED TO RECTIFYING DAMAGE CAUSED BY IMPROPER PACKING WILL BE CHARGED FOR.**



# GUARANTEE

Accucraft UK Ltd will remedy any defect or malfunction occurring with this product during a two year guarantee period from date of purchase. This guarantee does not extend to malfunctions or defects caused by damage or unreasonable use, including the failure to provide the correct types of lubrication and water or by not controlling the gas correctly. The guarantee registration card should be returned to us.

If a claim is to be made within the two year guarantee period, in the first instance, return both the product to your dealer. In the event of your problem not being able to be fixed by your dealer, they will contact us for advice. If necessary we will arrange for the product to be returned to our service department for repair.

This guarantee is quoted in addition to all legal rights of the purchaser under the Sale of Goods Act, and shall expire two years from the date of purchase. Under no circumstances shall Accucraft UK Ltd be responsible for any consequential damages arising in regard to any Accucraft UK Ltd product.

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## CARE OF YOUR LOCOMOTIVE

- **Proper lubrication is most important but must not be overdone.**
- **Care should be taken when removing the loco from its packaging, as any levering action using projecting parts (e.g. buffers) may result in damage.**
- **Check with your dealer that these locomotives wheel standards are compatible with your track system. Ensure that your track is in good condition and well maintained.**
- **Keep the engine free of dust and dirt. Debris such as earth and gravel in the motion will lead to premature wear and failure.**
- **Always use steam oil in the lubricator, never ordinary household oil.**
- **Never light the burner without water in the boiler.**
- **Always control the gas correctly and do not have the fire too high so it goes into the smoke box and damages materials, paint, or wheel insulation.**

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## SAFETY

- **Always use this product in a well-ventilated area. Never get directly above the chimney, boiling water can sometimes be ejected from it.**
- **When in steam, and for some time afterwards the engine will be very hot. HANDLE WITH CARE.**
- **This model has many small parts and should be handled with care. It is not suitable for children under the age of 14 years old.**

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**ACCUCRAFT UK LTD, UNIT 4, LONG MEADOW INDUSTRIAL ESTATE, PONTRILAS,  
HEREFORDSHIRE. HR2 0UA.**

## LOCOMOTIVE LOG BOOK

Loco Serial No: ..... Boiler Serial No: .....

Gas Tank Serial No: .....

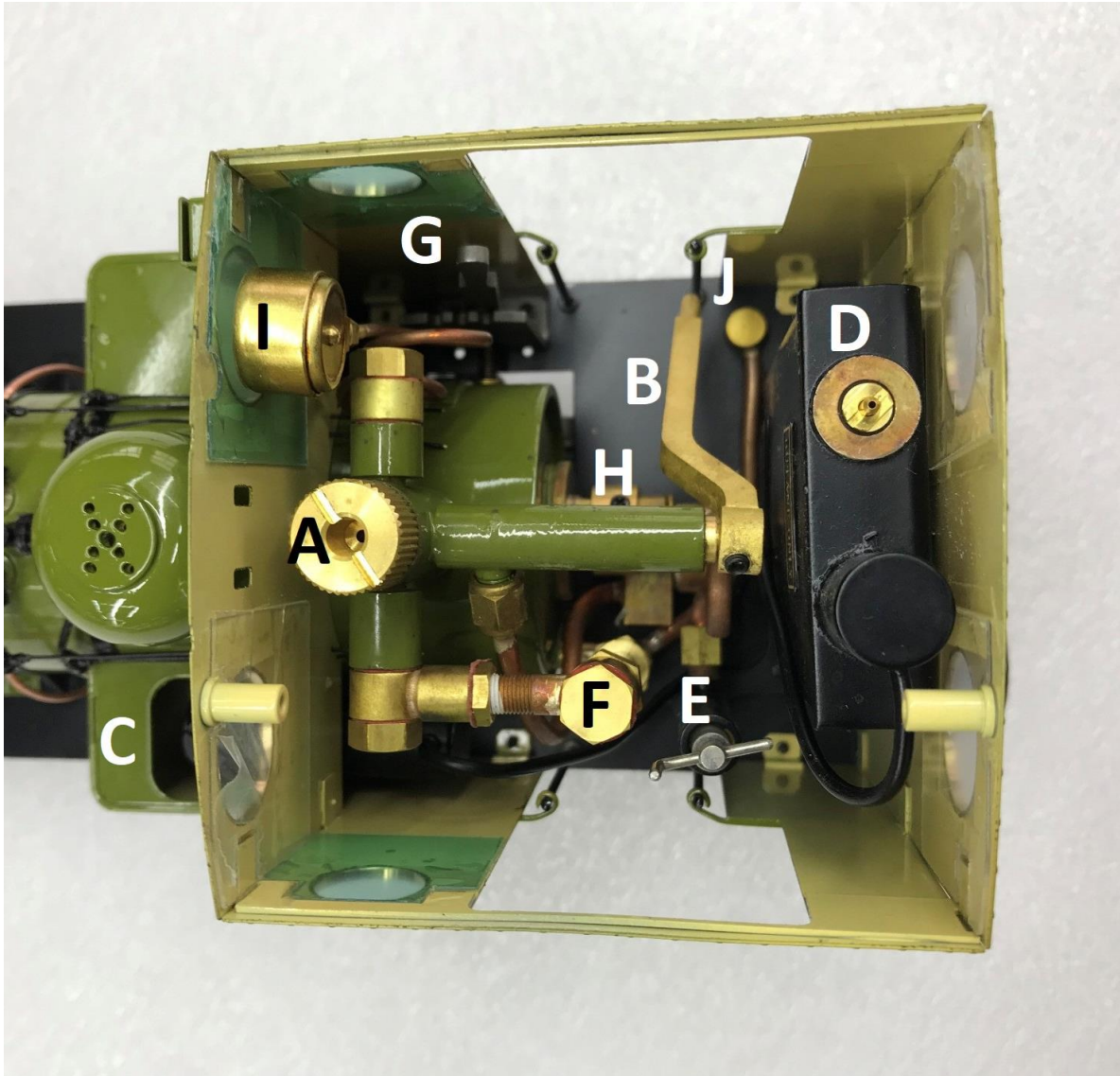
First Registered Owner: .....

Date Purchased: .....

Second Registered Owner: .....

Date Purchased: .....

## Cab Operational Controls:



**A: Water filler (Goodall valve).**

**C: Lubricator.**

**E: Gas Control valve.**

**G: Reverse lever.**

**I: Pressure gauge.**

**J: Water gauge blow down valve, under footplate.**

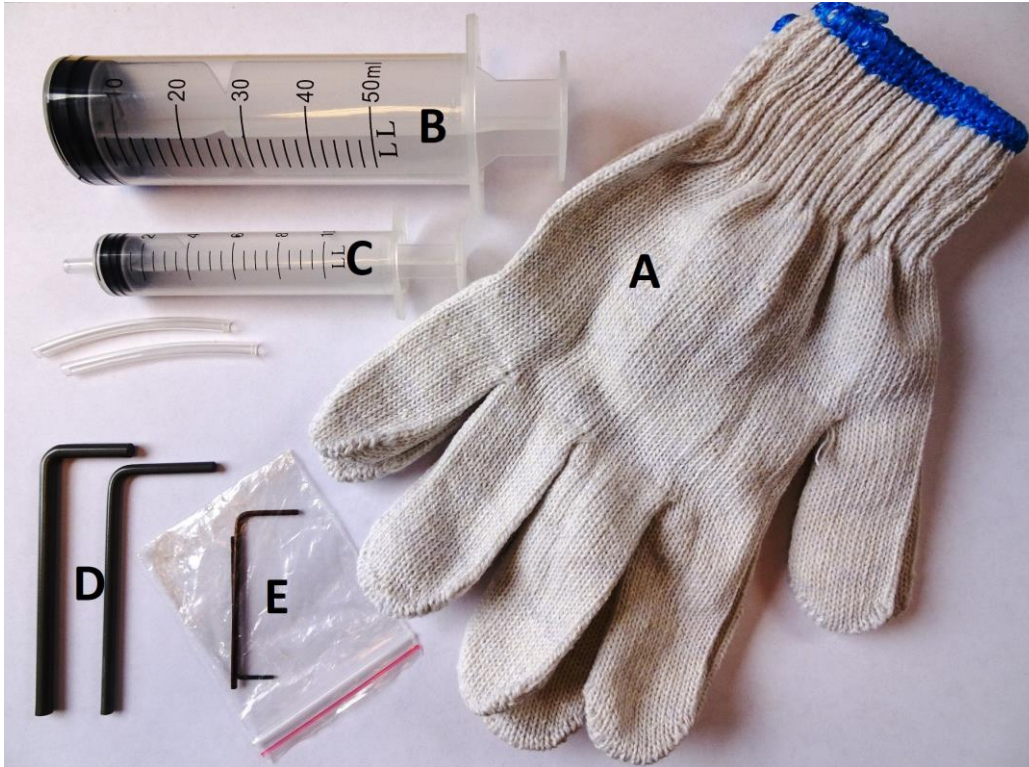
**B: Steam regulator.**

**D: Gas Filler valve.**

**F: Water gauge.**

**H: Burner jet.**

## **Accessories Illustrated.**



**A. Protective gloves**

**B. Boiler filling syringe**

**C. Small syringe and tubes for lubricator draining**

**D. Hex nut spinners for 2mm and 3mm hex bolts**

**E. Allen keys and spare nuts and bolts**

**NB: The coupling hook can be unbolted and replaced with one of our standard Z1 or Z2 couplings using the adjacent, outer bolts.**