Clarifications

The following are clarifications to the book 'The Formation Generated By A Finite Group IV – The Classification'. **Bold** type denotes the area of change.

Page 29 (2nd paragraph) ~~$L \lhd G$~~

Page 69 There is a unique largest normal nilpotent subgroup of G, $F(G)$.

Page 101 which belong to $Form\{A\}$ by **7.8**.

Page 123 Omit the following …**For example statement a)ii below does not hold for an abelian group (e.g. take $G = C_2 \times C_2 = <a> \times <a>$ and the subgroup $<a, a>$).**

Page 131 The equivalence class **(**or coset) …

Page 132 Let K be a splitting field for finite groups G_1 and G_2.

Page 137 (4) $T \cap D_i \lhd D_i$.

Page 156 Delete Theorem 12.3.5

Page 159 The situation is summarised for socle length 3 in Table 1, **and it is (without loss of generality) these cases that we must consider.**

Page 160 – Replace 3rd paragraph with … **We may assume, in case 7, without loss of generality, that the head consists of a single non-abelian simple group. This is because according to [24], 14.1.3, a group with a head consisting of more than one non-abelian simple group cannot exist. We may also show that we may assume that in case 8, without loss of generality, that the head consists of a single cyclic abelian p-group.**

Page 160 - Insert after 3rd paragraph. **In case 5, we may also assume, without loss of generality, that the head consists of a single non-abelian simple group. This is because, according to [24], 14.2. there does not exist a group with a head consisting of more than one non-abelian simple group. In case 6, we may also assume, without loss of generality, that the head consists of a single simple cyclic p-group. This is because according to [24], 15.3, or 13.2 here, a group with a head which is a single cyclic p-group contains infinitely many formation critical groups. So the same would be true for a head consisting of multiple cyclic p-groups.**

Page 162 - Then $V_n \cong T$ or $V_n \cong C_{p_1}$

Page 163 – **It is easy to show that** $\dfrac{B}{rad(B)}$ is simple.

Page 163 - Suppose $B = \frac{H}{X}$.

Page 165 Case 7 and Case 8. Replace the proof with the argument of the paper 'The Sub-Formations of a Soluble by Simple group of socle length 3', obtainable at (April 2025) 'https://mathematicalservices.co.uk/FGFG.html'.

Page 166-167 Replace with … **We may show that G is a uniserial group of socle length 3. Any formation critical group in $Form(G)$ of socle length 3 can only be G.**

Page 168 – Then **an analogous argument to** 13.3 establishes the result in case ii …. This result is present in the paper 'The Sub-Formations of a Soluble by Simple group' obtainable at (April 2025) 'https://mathematicalservices.co.uk/FGFG.html'.