The group G is isomorphic to the group labelled by [40, 6] in the Small Groups library.
Ordinary character table of $G \cong$ D40:

	1a	2a	4a	2b	5a	2c	20a	10a	5b	20b	20c	10b	20d
χ_1	1	1	1	1	1	1	1	1	1	1	1	1	1
χ_2	1	−1	−1	1	1	1	−1	1	1	−1	−1	1	−1
χ_3	1	−1	1	1	1	−1	1	1	1	−1	1	1	1
χ_4	1	1	−1	1	1	−1	−1	1	1	−1	−1	1	−1
χ_5	2	0	0	−2	2	0	0	−2	2	0	0	−2	0
χ_6	2	0	−2	2	$E(5)^2+E(5)^3$	0	$-E(5)^2-E(5)^3$	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	$-E(5)^2-E(5)^3$	$-E(5)-E(5)^4$	$E(5)+E(5)^4$	$-E(5)-E(5)^4$
χ_7	2	0	−2	2	$E(5)+E(5)^4$	0	$-E(5)-E(5)^4$	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	$-E(5)-E(5)^4$	$-E(5)^2-E(5)^3$	$E(5)^2+E(5)^3$	$-E(5)^2-E(5)^3$
χ_8	2	0	0	−2	$E(5)^2+E(5)^3$	0	$-E(20)^{13}+E(20)^{17}$	$-E(5)^2-E(5)^3$	$E(5)+E(5)^4$	$E(20)^{13}-E(20)^{17}$	$-E(20)+E(20)^9$	$-E(5)-E(5)^4$	$E(20)-E(20)^9$
χ_9	2	0	0	−2	$E(5)^2+E(5)^3$	0	$E(20)^{13}-E(20)^{17}$	$-E(5)^2-E(5)^3$	$E(5)+E(5)^4$	$-E(20)^{13}+E(20)^{17}$	$E(20)-E(20)^9$	$-E(5)-E(5)^4$	$-E(20)+E(20)^9$
χ_{10}	2	0	0	−2	$E(5)+E(5)^4$	0	$-E(20)+E(20)^9$	$-E(5)-E(5)^4$	$E(5)^2+E(5)^3$	$E(20)-E(20)^9$	$E(20)^{13}-E(20)^{17}$	$-E(5)^2-E(5)^3$	$-E(20)^{13}+E(20)^{17}$
χ_{11}	2	0	0	−2	$E(5)+E(5)^4$	0	$E(20)-E(20)^9$	$-E(5)-E(5)^4$	$E(5)^2+E(5)^3$	$-E(20)+E(20)^9$	$-E(20)^{13}+E(20)^{17}$	$-E(5)^2-E(5)^3$	$E(20)^{13}-E(20)^{17}$
χ_{12}	2	0	2	2	$E(5)^2+E(5)^3$	0	$E(5)^2+E(5)^3$	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	$E(5)+E(5)^4$	$E(5)+E(5)^4$
χ_{13}	2	0	2	2	$E(5)+E(5)^4$	0	$E(5)+E(5)^4$	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	$E(5)^2+E(5)^3$	$E(5)^2+E(5)^4$

Trivial source character table of $G \cong$ D40 at $p = 2$:

Normalisers N_i	N_1			N_2			N_3	N_4	N_5			N_6	N_7	N_8
p-subgroups of G up to conjugacy in G	P_1			P_2			P_3	P_4	P_5			P_6	P_7	P_8
Representatives $n_j \in N_i$	1a	5a	5b	1a	5a	5b	1a	1a	1a	5a	5b	1a	1a	1a
$1\cdot\chi_1+1\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+2\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	8	8	8	0	0	0	0	0	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+1\cdot\chi_6+0\cdot\chi_7+1\cdot\chi_8+1\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+1\cdot\chi_{12}+0\cdot\chi_{13}$	8	$4*E(5)^2+4*E(5)^3$	$4*E(5)+4*E(5)^4$	0	0	0	0	0	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+1\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+1\cdot\chi_{10}+1\cdot\chi_{11}+0\cdot\chi_{12}+1\cdot\chi_{13}$	8	$4*E(5)+4*E(5)^4$	$4*E(5)^2+4*E(5)^3$	0	0	0	0	0	0	0	0	0	0	0
$1\cdot\chi_1+1\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	4	4	4	4	4	4	0	0	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+1\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+1\cdot\chi_{12}+0\cdot\chi_{13}$	4	$2*E(5)^2+2*E(5)^3$	$2*E(5)+2*E(5)^4$	4	$2*E(5)^2+2*E(5)^3$	$2*E(5)+2*E(5)^4$	0	0	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+1\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+1\cdot\chi_{13}$	4	$2*E(5)+2*E(5)^4$	$2*E(5)^2+2*E(5)^3$	4	$2*E(5)+2*E(5)^4$	$2*E(5)^2+2*E(5)^3$	0	0	0	0	0	0	0	0
$1\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+1\cdot\chi_4+1\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	4	4	4	0	0	0	2	0	0	0	0	0	0	0
$1\cdot\chi_1+1\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+1\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	4	4	4	0	0	0	0	2	0	0	0	0	0	0
$1\cdot\chi_1+0\cdot\chi_2+1\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	2	2	2	2	2	2	0	0	2	2	2	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+1\cdot\chi_{13}$	2	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	2	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	0	0	2	$E(5)+E(5)^4$	$E(5)^2+E(5)^3$	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+1\cdot\chi_{12}+0\cdot\chi_{13}$	2	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	2	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	0	0	2	$E(5)^2+E(5)^3$	$E(5)+E(5)^4$	0	0	0
$1\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	2	2	2	2	2	2	0	0	0	0	0	2	0	0
$1\cdot\chi_1+1\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	2	2	2	2	2	2	0	2	0	0	0	0	2	0
$1\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+0\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7+0\cdot\chi_8+0\cdot\chi_9+0\cdot\chi_{10}+0\cdot\chi_{11}+0\cdot\chi_{12}+0\cdot\chi_{13}$	1	1	1	1	1	1	1	1	1	1	1	1	1	1

$P_1 = Group([()]) \cong 1$
$P_2 = Group([(1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40)]) \cong C2$
$P_3 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29)]) \cong C2$
$P_4 = Group([(1,13)(2,9)(3,7)(4,6)(5,40)(8,39)(10,38)(11,37)(12,36)(14,35)(15,34)(16,33)(17,32)(18,31)(19,30)(20,29)(21,28)(22,27)(23,26)(24,25)]) \cong C2$
$P_5 = Group([(1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40)]) \cong C4$
$P_6 = Group([(1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29)]) \cong C2 \times C2$
$P_7 = Group([(1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,13)(2,9)(3,7)(4,6)(5,40)(8,39)(10,38)(11,37)(12,36)(14,35)(15,34)(16,33)(17,32)(18,31)(19,30)(20,29)(21,28)(22,27)(23,26)(24,25)]) \cong C2 \times C2$
$P_8 = Group([(1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40), (1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29)]) \cong D8$

$N_1 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,5,12,20,28)(2,8,16,24,32)(3,10,18,26,34)(4,11,19,27,35)(6,14,22,30,37)(7,15,23,31,38)(9,17,25,33,39)(13,21,29,36,40)]) \cong D40$
$N_2 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,5,12,20,28)(2,8,16,24,32)(3,10,18,26,34)(4,11,19,27,35)(6,14,22,30,37)(7,15,23,31,38)(9,17,25,33,39)(13,21,29,36,40)]) \cong D40$
$N_3 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,7)(2,4)(3,6)(5,38)(8,35)(9,13)(10,37)(11,32)(12,31)(14,34)(15,28)(16,27)(17,40)(18,30)(19,24)(20,23)(21,39)(22,26)(25,36)(29,33)]) \cong C2 \times C2$
$N_4 = Group([(1,13)(2,9)(3,7)(4,6)(5,40)(8,39)(10,38)(11,37)(12,36)(14,35)(15,34)(16,33)(17,32)(18,31)(19,30)(20,29)(21,28)(22,27)(23,26)(24,25), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40)]) \cong C2 \times C2$
$N_5 = Group([(1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,5,12,20,28)(2,8,16,24,32)(3,10,18,26,34)(4,11,19,27,35)(6,14,22,30,37)(7,15,23,31,38)(9,17,25,33,39)(13,21,29,36,40)]) \cong D40$
$N_6 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40)]) \cong D8$
$N_7 = Group([(1,13)(2,9)(3,7)(4,6)(5,40)(8,39)(10,38)(11,37)(12,36)(14,35)(15,34)(16,33)(17,32)(18,31)(19,30)(20,29)(21,28)(22,27)(23,26)(24,25), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40), (1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29)]) \cong D8$
$N_8 = Group([(1,2)(3,13)(4,7)(5,32)(6,9)(8,28)(10,40)(11,38)(12,24)(14,39)(15,35)(16,20)(17,37)(18,36)(19,31)(21,34)(22,33)(23,27)(25,30)(26,29), (1,3,4,9)(2,6,7,13)(5,10,11,17)(8,14,15,21)(12,18,19,25)(16,22,23,29)(20,26,27,33)(24,30,31,36)(28,34,35,39)(32,37,38,40), (1,4)(2,7)(3,9)(5,11)(6,13)(8,15)(10,17)(12,19)(14,21)(16,23)(18,25)(20,27)(22,29)(24,31)(26,33)(28,35)(30,36)(32,38)(34,39)(37,40)]) \cong D8$