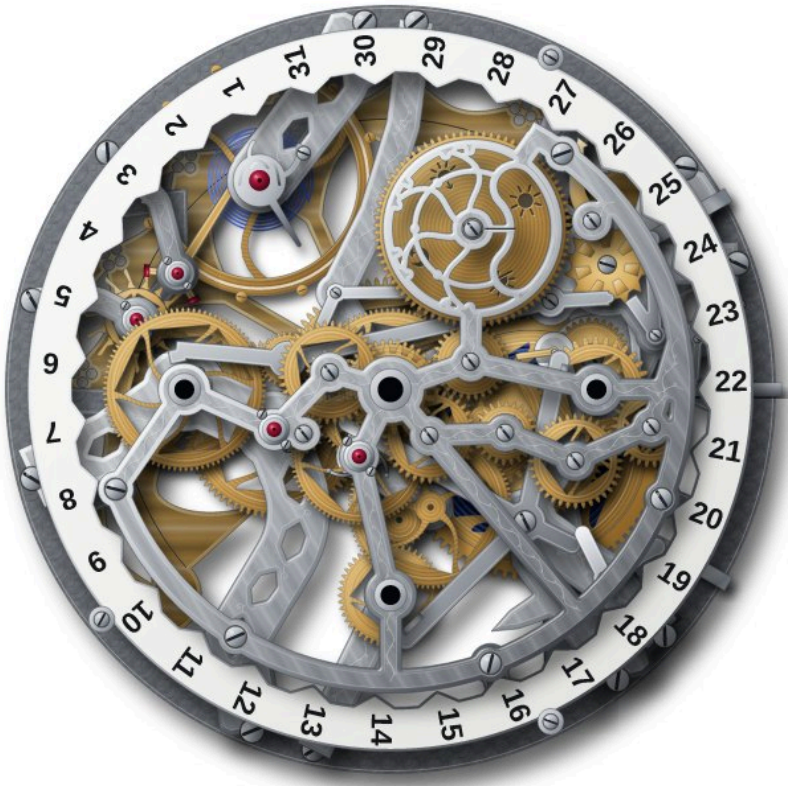
TECHNICAL GUIDE
&
PARTS CATALOGUE

Cal. GAM Series

(GAM-1100 … GAM-2299)



MECHANICAL · HAND-WOUND & AUTOMATIC
CHRONOGRAPH & TIME / DATE

1. Calibre numbering

GAM–X Y Z W

X · type	1 = mechanical, hand-wound · 2 = automatic (bidirectional rotor)
Y · features	1 = chronograph + date · 2 = time + date (centre seconds)
Z · gear finish	The moving train, rotor and keyless and motion wheels — digit from the finish table below
W · structure finish	Plates, bridges, cocks, levers and springs — same table; 2 = stainless steel

2. Model matrix

Calibre	Type	Features	Example: gold gears, steel structure
GAM-11xx	Hand-wound	Chronograph, date, day/night	GAM-1112
GAM-12xx	Hand-wound	Time, date, day/night	GAM-1212
GAM-21xx	Automatic	Chronograph, date, day/night	GAM-2112
GAM-22xx	Automatic	Time, date, day/night	GAM-2212

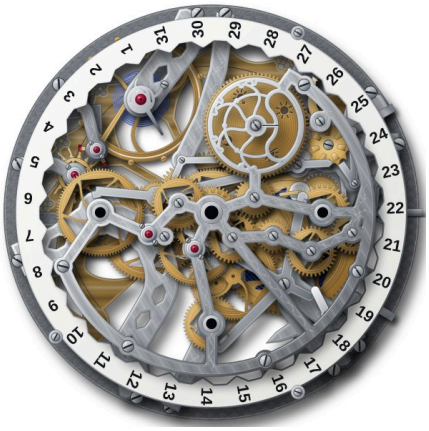
3. Finish digits

Z and W — the Gear colour and Bridge colour settings

Digit	Gears (Z) · Gear colour	Structure (W) · Bridge colour	Finish
1	Gold	Gold	Gold
2	Silver	Steel	Silver gears · stainless-steel structure
3	Dark grey	Dark grey	Coating over the silver / steel parts
4	Rose gold	Rose gold	Coating over the silver / steel parts
5	Black	Black	Coating over the silver / steel parts
6	Bronze	Bronze	Coating over the silver / steel parts
7	Blue	Blue	Coating over the silver / steel parts
8	Green	Green	Coating over the silver / steel parts
9	Red	Red	Coating over the silver / steel parts
0	Purple	Purple	Coating over the silver / steel parts

On the Atelier watch faces the **Movement** setting chooses the calibre — GAM-11, GAM-12, GAM-21 or GAM-22: the winding system (rotor shown or not) and the chronograph works (fitted, or a time-only train with indirect centre seconds). **Gear colour** sets Z and **Bridge colour** sets W: the faces' default, gold gears on a steel structure, is GAM-xx12. The free Movement Demonstration carries the chronograph calibres in silver on steel, GAM-1122 and GAM-2122.

Finishes as the watch faces draw them



GAM-2112
Gold gears · steel structure



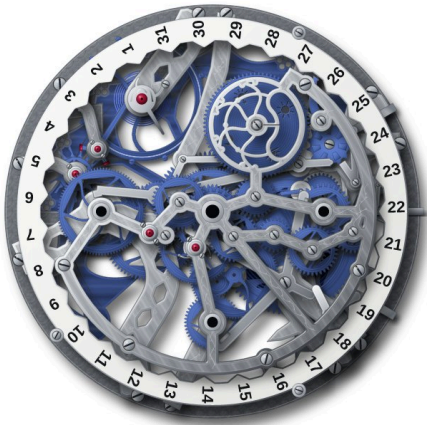
GAM-2122
Silver gears · steel structure



GAM-2132
Dark grey gears · steel structure



GAM-2142
Rose gold gears · steel structure

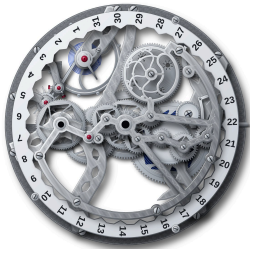


GAM-2172
Blue gears · steel structure



GAM-2115
Gold gears · black structure

Gold and silver are the gears' own metals and stainless steel the structure's; every other finish is a coating over the silver / steel parts, so any gear finish can sit on any structure finish (10 × 10 per calibre). Jewels, blued screws and the date ring (white or black — its own setting) are never coated.

Cal. No.	**GAM-11xx** Hand-wound · Chronograph · Date	**GAM-12xx** Hand-wound · Time · Date	**GAM-21xx** Automatic · Chronograph · Date	**GAM-22xx** Automatic · Time · Date
				
Outside diameter	Ø 36.6 mm (casing Ø 36.0 mm)			
Total height	6.20 mm	5.10 mm	7.60 mm	6.50 mm
Time indication	Hours, minutes, small seconds at 9, centre chronograph seconds	Hours, minutes, centre seconds (indirect)	Hours, minutes, small seconds at 9, centre chronograph seconds	Hours, minutes, centre seconds (indirect)
Additional	30-minute counter at 3, 12-hour counter at 6, date at 4:30, 24-hour day/night	Date at 4:30, 24-hour day/night	30-minute counter at 3, 12-hour counter at 6, date at 4:30, 24-hour day/night	Date at 4:30, 24-hour day/night
Winding	Manual (crown)	Manual (crown)	Automatic, bidirectional rotor (1 : 128) + manual	Automatic, bidirectional rotor (1 : 128) + manual
Frequency	14,400 vibrations per hour (2 Hz) · 4 beats per second — the seconds hands advance in 250 ms steps			
Escapement	Swiss lever, 15-tooth club escape wheel, balance Ø 11 mm with Breguet overcoil, amplitude 285°, lift angle 52°			
Power reserve	More than 45 hours (6.5 barrel turns × 7 h per turn) after full winding			
Winding the mainspring	Fully wound by 26 turns of the crown	Fully wound by 26 turns of the crown	Fully wound by 26 turns of the crown, or ≈ 832 rotor turns	Fully wound by 26 turns of the crown, or ≈ 832 rotor turns
Chronograph	Column wheel, horizontal coupling, heart-cam reset; start/stop at 2, reset at 4	—	Column wheel, horizontal coupling, heart-cam reset; start/stop at 2, reset at 4	—
Jewels	57 jewels	43 jewels	63 jewels	49 jewels
Date change	A finger on the 24-hour wheel drags the 31-tooth ring one tooth late in the evening; the V-tip jumper snaps it home around midnight			
Case fit	47 mm round case: Ø 36.6 mm leaves 5.2 mm a side for the case wall; the tallest calibre stands 7.60 mm			
Accuracy (on the watch face)	Regulated to the watch's own clock: the train is locked to real seconds, so the simulated rate is 0 s/day			
Crown position	Normal: winding (sliding pinion on the winding pinion) · Pulled: time setting with stop-seconds — the setting lever swings the yoke and presses the stop lever onto the balance rim, the sliding pinion drives the setting wheel → setting intermediate → minute setting wheel → minute wheel			

Height stack

layer thicknesses from the NH70 (5.32 mm), in mm

Layer	Reference	GAM-11xx	GAM-12xx	GAM-21xx	GAM-22xx
Rotor + automatic works	NH70 rotor & automatic bridge			1.40	1.40
Mainplate	NH70 mainplate	1.20	1.20	1.20	1.20
Going train + bridges (balance cock highest)	NH70 train bridge stack	1.90	1.90	1.90	1.90
Chronograph tier (column wheel, coupling, counters, hour-train plate)	modular chronograph tier	1.60		1.60	
Seconds tier (fixed intermediate, centre-seconds wheel, seconds cock)	NH70 seconds wheel bridge		0.50		0.50
Date & motion works + indirect minute drive	NH70 motion works 0.8 + date ring 0.3	1.10	1.10	1.10	1.10
Closeout plate	plate stock	0.40	0.40	0.40	0.40
Total height		**6.20**	**5.10**	**7.60**	**6.50**

Going train

Wheel	Teeth	Pinion	Module	Period	Note
Barrel	84	—	0.15	7 h	drives centre pinion
Centre wheel	80	12	0.13	1 h	one turn an hour
Third wheel	75	10	0.11	7.5 min	
Fourth wheel	56	10	0.1275	1 min	small seconds / chronograph drive
Escape wheel	15	7	—	7.5 s	2 beats per tooth

Barrel 84/12 = 7 h per barrel turn · centre 80/10 × third 75/10 = 60 → fourth = 60 s · fourth 56/7 = 8 → escape 7.5 s · 15 teeth × 2 beats ÷ 7.5 s = **4 beats/s = 14,400 A/h**

Motion works and indirect minute drive

Part	Teeth	Module	Period
Third drive pinion → minute drive idler → drive intermediate	10 → 14 → 40 / 10	0.118	—
Drive intermediate pinion → cannon wheel	10 → 20	0.2	1 h
Cannon pinion → minute wheel	12 → 36	0.12	3 h
Minute pinion → hour wheel	10 → 40	0.1152	12 h

With a central chronograph runner the minute hand cannot ride the centre wheel; the third-wheel arbor is carried up and drives the cannon through 10/40 × 10/20 = 1/8 of the third's 8 turns an hour → one turn an hour. The 14-tooth idler between the third pinion and the intermediate makes three external meshes, so the counter-clockwise third arbor turns the minute hand clockwise. Motion work 36/12 × 40/10 = 12.

Date and day/night

Part	Teeth	Period
Hour wheel → date idler → 24-hour date driving wheel	40 → 30 → 80	24 h
Date ring (internal teeth) under a V-tip jumper	31	31 days

The finger on the 24-hour wheel reaches 0.4 mm past the ring's tooth tips and advances it one tooth a day. The wheel carries carved symbols (sunrise, sun, sunset, moon); the symbol under the closeout's slot, at the end of the reading groove, is the time of day.

Jewelling a jewel on every axle

Bearings	Jewels	GAM-11xx	GAM-12xx	GAM-21xx	GAM-22xx
Going train: barrel, centre, third, fourth, escape, pallet, balance (7 arbors × 2)	14	●	●	●	●
Balance cap jewels (shock settings) · pallet stones · impulse jewel	5	●	●	●	●
Third arbor top bearing (indirect minute drive)	1	●	●	●	●
Keyless: crown wheel	2	●	●	●	●
Motion & date: minute wheel, minute drive idler, drive intermediate, date idler, 24-hour wheel (5 × 2)	10	●	●	●	●
Setting works: setting wheel, setting intermediate, minute setting wheel (3 × 2)	6	●	●	●	●
Fourth arbor top bearing (seconds / chronograph drive)	1	●	●	●	●
Time-only seconds: intermediate, centre-seconds wheel (2 × 2)	4		●		●
Chronograph: coupling, runner, column wheel, minute intermediate, minute counter, H1, H2, hour idler, hour counter (9 × 2)	18	●		●	
Automatic: two reversers, transmission (3 × 2); rotor on a ceramic ball bearing	6			●	●
Total		**57**	**43**	**63**	**49**

Winding

Train	Teeth	Ratio
Keyless: winding pinion → crown wheel → ratchet wheel	15 → 30 → 60	1 crown turn = ¼ barrel turn
Automatic (GAM-2xxx): rotor pinion → reversers → transmission → automatic ratchet	16 → 32/8 → 64/7 → 56	1 : 128, bidirectional

Chronograph trains (GAM-x1xx)

Train	Teeth	Period
Fourth arbor → chronograph driving wheel → coupling wheel → runner (centre)	90 → 30 → 90	1 : 1, 60 s
Runner finger → minute intermediate → 30-minute counter	1 tooth/min → 40 → 30	30 min
Runner pinion → H1 → H1 pinion → H2	8 → 80 / 8 → 96	10 min · 2 h
H2 pinion → hour idler → 12-hour counter	8 → 24 → 48	12 h

Operation

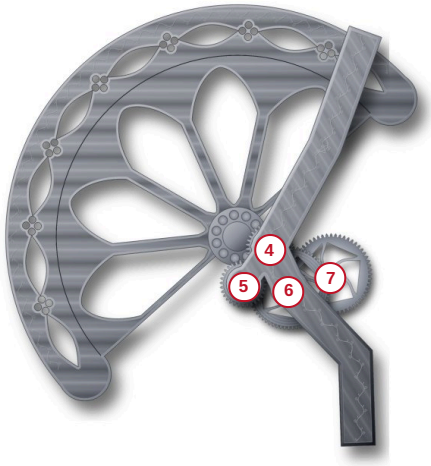
Start	Press the pusher at 2. The column wheel turns half a column; the operating lever drops between columns and the coupling lever swings the coupling wheel into the runner. The seconds brake shoe holds the small seconds while the chronograph runs.
Stop	Press the pusher at 2 again: the coupling lever lifts, the runner brake bears on the runner, the counters hold their readings.
Reset	Press the pusher at 4 (stopped only): the hammer's faces strike the runner, minute and hour hearts; every chronograph hand returns to zero. The hour train slips at H1's friction clutch, so the runner and the 12-hour counter zero independently.
Counting	The 30-minute counter jumps once a minute; the 12-hour counter creeps continuously through its idler.

On the Atelier watch face

Chronograph mode	Long-press the centre of the face, or the Chronograph mode setting. The chronograph hands and counter numerals take over the subdials. (The free Movement Demonstration is always in chronograph mode.)
Start / stop · Reset	Long-press the right edge level with the pusher at 2 · level with the pusher at 4.
Data mode	Outside chronograph mode (paid faces) each subdial shows a data reading (Subdial at 9 / 3 / 6 settings); numerals are carved into the subdial rings. The counter trains carry the readings: the 30-minute counter steps tooth by tooth (30 positions, held by its jumper) and the 12-hour counter train turns to the value in 6° steps, slipping at H1's friction clutch. The small seconds hand rides its friction collet, so it can be held or set while the fourth arbor turns on.
Time-only calibres	GAM-x2xx carry no counters: no subdial hands, the centre seconds is driven through a fixed intermediate wheel.

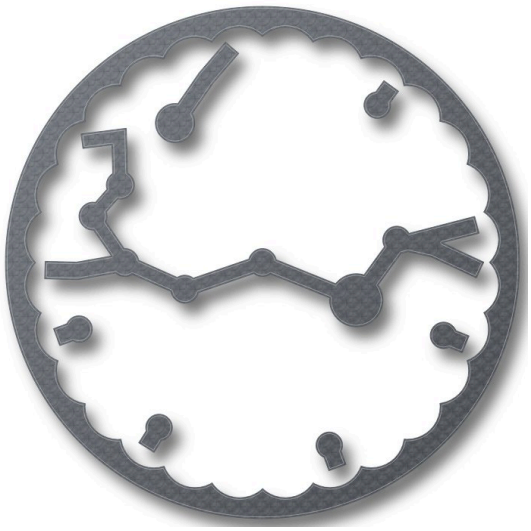
Disassembly in the order shown (tier ① → last), reassembly in reverse. ◆ gear-finish part (code ends in the gear digit G = Z) · ◇ structure-finish part (code ends in the structure digit B = W); digits in the finish table, page 2. Callouts sit on the part's arbor.

Automatic winding works (rear of the mainplate) GAM-2xxx only



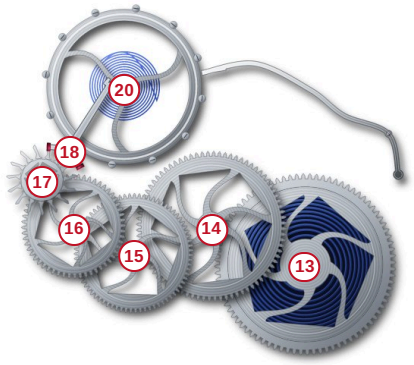
No.	Part	Code	11x	12x	21x	22x
1	Oscillating weight with ball bearing ◆	0110 01G			●	●
2	Automatic bridge ◇	0111 01B			●	●
3	Rotor pinion (16) ◇	0112 01B			●	●
4	First reverser wheel (32 / pinion 8) ◇	0113 01B			●	●
5	Second reverser wheel (32 / pinion 8) ◇	0114 01B			●	●
6	Transmission wheel (64 / pinion 7) ◇	0115 01B			●	●
7	Automatic ratchet wheel (56, on the barrel arbor) ◇	0116 01B			●	●
8	Oscillating weight screw	0117 000			●	●
9	Automatic bridge screw (×3)	0118 000			●	●

Mainplate



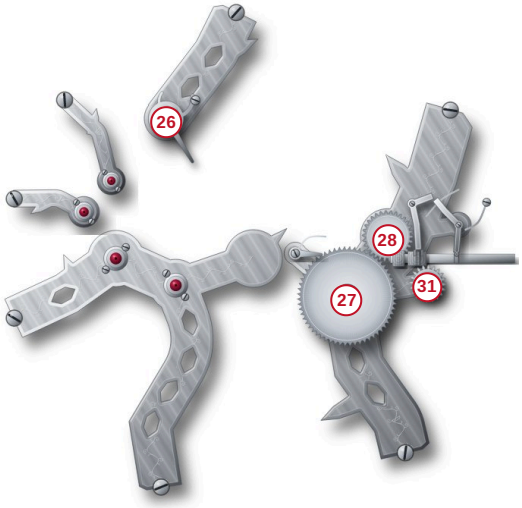
No.	Part	Code	11x	12x	21x	22x
10	Mainplate with frame ring (perlage, Gothic inner edge) ◇	0210 02B	●	●	●	●
11	Hole jewels, mainplate side (set)	0211 000	●	●	●	●
12	Foot screws (×7)	0212 000	●	●	●	●

Going train and regulating organ



No.	Part	Code	11x	12x	21x	22x
13	Barrel complete with mainspring (84) ◆	0310 03G	•	•	•	•
14	Centre wheel and pinion (80 / 12) ◆	0311 03G	•	•	•	•
15	Third wheel and pinion (75 / 10) ◆	0312 03G	•	•	•	•
16	Fourth wheel and pinion (56 / 10) ◆	0313 03G	•	•	•	•
17	Escape wheel and pinion (15 club teeth / 7) ◆	0314 03G	•	•	•	•
18	Pallet fork with stones	0315 000	•	•	•	•
19	Stop-seconds lever (sprung tip on the balance rim) ◇	0316 03B	•	•	•	•
20	Balance complete with Breguet hairspring ◆	0317 03G	•	•	•	•
21	Impulse jewel	0318 000	•	•	•	•

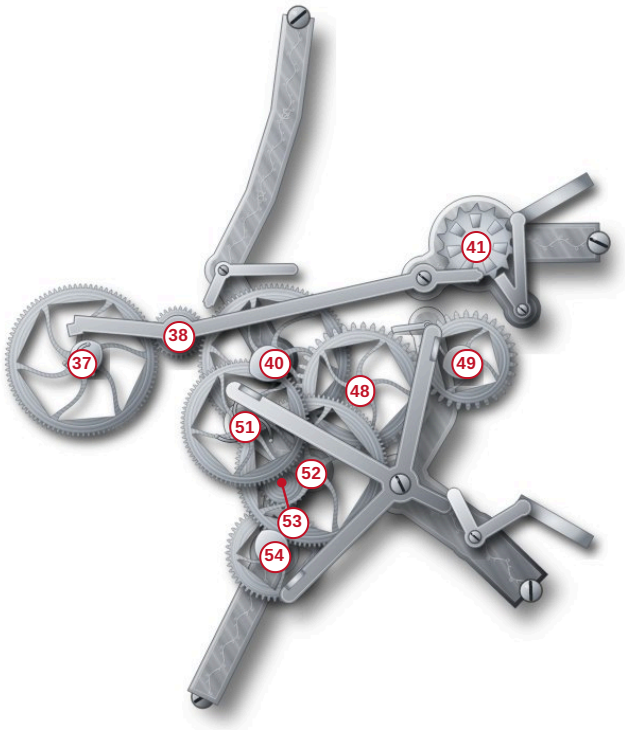
Bridges and keyless works



No.	Part	Code	11x	12x	21x	22x
22	Barrel bridge ◇	0410 04B	•	•	•	•
23	Train wheel bridge ◇	0411 04B	•	•	•	•
24	Escape cock ◇	0412 04B	•	•	•	•
25	Pallet cock ◇	0413 04B	•	•	•	•
26	Balance cock with regulator ◇	0414 04B	•	•	•	•
27	Ratchet wheel (60) ◆	0415 04G	•	•	•	•
28	Crown wheel (30) ◆	0416 04G	•	•	•	•
29	Winding pinion (15) ◆	0417 04G	•	•	•	•
30	Sliding pinion (clutch wheel) ◆	0418 04G	•	•	•	•
31	Setting wheel (20 / 30, two-tier arbor) ◆	0419 04G	•	•	•	•
32	Winding stem	0420 000	•	•	•	•
33	Yoke and yoke spring ◇	0421 04B	•	•	•	•
34	Setting lever and setting-lever spring ◇	0422 04B	•	•	•	•
35	Click and click spring ◇	0423 04B	•	•	•	•
36	Bridge screws, blued (set)	0424 000	•	•	•	•

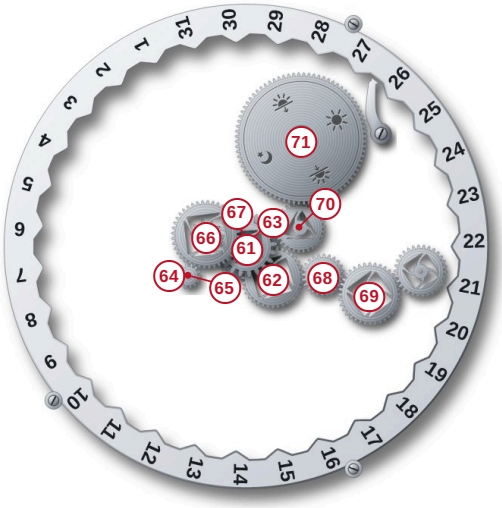
Chronograph works (column wheel, horizontal coupling)

GAM-x1xx (time-only parts for GAM-x2xx at the end)



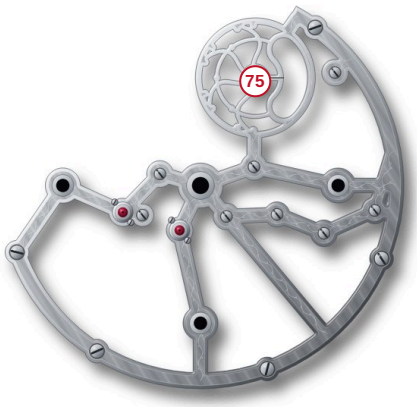
No.	Part	Code	11x	12x	21x	22x
37	Chronograph driving wheel (90, on the fourth arbor) ◆	0510 05G	•		•	
38	Coupling wheel (30) ◆	0511 05G	•		•	
39	Coupling lever with seconds brake shoe ◇	0512 05B	•		•	
40	Runner wheel (90) with pinion (8) ◆	0513 05G	•		•	
41	Column wheel (14 teeth, 7 columns) ◇	0514 05B	•		•	
42	Operating lever ◇	0515 05B	•		•	
43	Start / stop stem (2 o'clock)	0516 000	•		•	
44	Reset stem (4 o'clock)	0517 000	•		•	
45	Reset lever ◇	0518 05B	•		•	
46	Hammer ◇	0519 05B	•		•	
47	Runner brake ◇	0520 05B	•		•	
48	Minute intermediate wheel (40) ◆	0521 05G	•		•	
49	30-minute counter wheel (30) with heart ◆	0522 05G	•		•	
50	Minute jumper ◇	0523 05B	•		•	
51	Hour train first wheel H1 (80 / 8), friction-fitted, with tension spring ◆	0524 05G	•		•	
52	Hour train second wheel H2 (96 / 8) ◆	0525 05G	•		•	
53	Hour idler (24) ◆	0526 05G	•		•	
54	12-hour counter wheel (48) with heart ◆	0527 05G	•		•	
55	Hearts, runner and small seconds (small seconds on a friction collet) ◆	0528 05G	•		•	
56	Hammer cock / control bridge / brake cock ◇	0529 05B	•		•	
57	Hour-train plate ◇	0530 05B	•		•	
58	Seconds intermediate wheel (30, fixed) ◆	0531 05G		•		•
59	Centre-seconds wheel (90) ◆	0532 05G		•		•
60	Seconds cock with spur ◇	0533 05B		•		•

Motion works, indirect minute drive and date works



No.	Part	Code	11x	12x	21x	22x
61	Cannon pinion (12) ◆	0610 06G	●	●	●	●
62	Minute wheel and pinion (36 / 10) ◆	0611 06G	●	●	●	●
63	Hour wheel (40) ◆	0612 06G	●	●	●	●
64	Third drive pinion (10) ◆	0613 06G	●	●	●	●
65	Minute drive idler (14) ◆	0614 06G	●	●	●	●
66	Drive intermediate wheel and pinion (40 / 10) ◆	0615 06G	●	●	●	●
67	Cannon wheel (20) ◆	0616 06G	●	●	●	●
68	Minute setting wheel (24) ◆	0617 06G	●	●	●	●
69	Setting intermediate wheel (36) ◆	0618 06G	●	●	●	●
70	Date idler (30) ◆	0619 06G	●	●	●	●
71	24-hour date driving wheel (80) with finger, carved day/night symbols ◆	0620 06G	●	●	●	●
72	Date ring, 31 teeth (white or black)	0621 000	●	●	●	●
73	Date jumper ◇	0622 06B	●	●	●	●
74	Date ring guide studs (×3)	0623 000	●	●	●	●

Closeout plate



No.	Part	Code	11x	12x	21x	22x
75	Closeout plate with skeletonised 24-hour cover and reading groove ◇	0710 07B	●	●	●	●
76	Pillars (×5) ◇	0711 07B	●	●	●	●
77	Closeout screws, blued (set)	0712 000	●	●	●	●

Finish-coloured parts

Replace G with the calibre's gear digit (Z) and B with its structure digit (W). Example, GAM-2172 (blue gears, steel structure): barrel 0310 037 · barrel bridge 0410 042.

No.	◆ Gear finish (Z)	Code
1	Oscillating weight with ball bearing	0110 01G
13	Barrel complete with mainspring (84)	0310 03G
14	Centre wheel and pinion (80 / 12)	0311 03G
15	Third wheel and pinion (75 / 10)	0312 03G
16	Fourth wheel and pinion (56 / 10)	0313 03G
17	Escape wheel and pinion (15 club teeth / 7)	0314 03G
20	Balance complete with Breguet hairspring	0317 03G
27	Ratchet wheel (60)	0415 04G
28	Crown wheel (30)	0416 04G
29	Winding pinion (15)	0417 04G
30	Sliding pinion (clutch wheel)	0418 04G
31	Setting wheel (20 / 30, two-tier arbor)	0419 04G
37	Chronograph driving wheel (90, on the fourth arbor)	0510 05G
38	Coupling wheel (30)	0511 05G
40	Runner wheel (90) with pinion (8)	0513 05G
48	Minute intermediate wheel (40)	0521 05G
49	30-minute counter wheel (30) with heart	0522 05G
51	Hour train first wheel H1 (80 / 8), friction-fitted, with tension spring	0524 05G
52	Hour train second wheel H2 (96 / 8)	0525 05G
53	Hour idler (24)	0526 05G
54	12-hour counter wheel (48) with heart	0527 05G
55	Hearts, runner and small seconds (small seconds on a friction collet)	0528 05G
58	Seconds intermediate wheel (30, fixed)	0531 05G
59	Centre-seconds wheel (90)	0532 05G
61	Cannon pinion (12)	0610 06G
62	Minute wheel and pinion (36 / 10)	0611 06G
63	Hour wheel (40)	0612 06G
64	Third drive pinion (10)	0613 06G
65	Minute drive idler (14)	0614 06G
66	Drive intermediate wheel and pinion (40 / 10)	0615 06G
67	Cannon wheel (20)	0616 06G
68	Minute setting wheel (24)	0617 06G
69	Setting intermediate wheel (36)	0618 06G
70	Date idler (30)	0619 06G
71	24-hour date driving wheel (80) with finger, carved day/night symbols	0620 06G

No.	◇ Structure finish (W)	Code
2	Automatic bridge	0111 01B
3	Rotor pinion (16)	0112 01B
4	First reverser wheel (32 / pinion 8)	0113 01B
5	Second reverser wheel (32 / pinion 8)	0114 01B
6	Transmission wheel (64 / pinion 7)	0115 01B
7	Automatic ratchet wheel (56, on the barrel arbor)	0116 01B
10	Mainplate with frame ring (perlage, Gothic inner edge)	0210 02B
19	Stop-seconds lever (sprung tip on the balance rim)	0316 03B
22	Barrel bridge	0410 04B
23	Train wheel bridge	0411 04B
24	Escape cock	0412 04B
25	Pallet cock	0413 04B
26	Balance cock with regulator	0414 04B
33	Yoke and yoke spring	0421 04B
34	Setting lever and setting-lever spring	0422 04B
35	Click and click spring	0423 04B
39	Coupling lever with seconds brake shoe	0512 05B
41	Column wheel (14 teeth, 7 columns)	0514 05B
42	Operating lever	0515 05B
45	Reset lever	0518 05B
46	Hammer	0519 05B
47	Runner brake	0520 05B
50	Minute jumper	0523 05B
56	Hammer cock / control bridge / brake cock	0529 05B
57	Hour-train plate	0530 05B
60	Seconds cock with spur	0533 05B
73	Date jumper	0622 06B
75	Closeout plate with skeletonised 24-hour cover and reading groove	0710 07B
76	Pillars (×5)	0711 07B

Lubrication

Point	Lubricant	Quantity
Every pivot, jewel, pallet stone, spring, lever and tooth	Wearer’s sweat (sports watch)	As generated
Top-up interval	Next run	—

Service note: the GAM series is a sports calibre. No oils or greases are specified; the movement is lubricated in use.

The Atelier watch faces

Faces	One face per dial: **Atelier Saphir** (the Open dial: clear printed sapphire) and **Atelier Vitesse** (the Speed dial); more dials to follow. **Atelier Movement Demonstration** (free): the bare movement, no dial, stick hands, silver.
Movement	GAM-11 · GAM-12 · GAM-21 · GAM-22 (Movement Demonstration: GAM-11 · GAM-21). The Movement Demonstration's only setting; it shows the full faces' other settings locked.
Chronograph mode	On: the chronograph hands and the pushers at 2 and 4 · Off: the data subdials. Also switched by a long-press on the centre of the face. (The Movement Demonstration is always in chronograph mode.)
Hands	A Breguet · B Dauphine · C Skeleton sword · P Pencil
Hand colour · Second hand colour	Style colours, silver, gold, rose gold, black, blued, ruby, emerald, sapphire, white
Gear colour · Bridge colour	Silver / steel, gold, rose gold, dark grey, black, bronze, blue, green, red, purple
Subdial at 9 / 3 / 6	Data shown outside chronograph mode (GAM-x1xx): Off, running seconds, battery, Body Battery, heart rate, steps, step goal, floors, floors goal, intensity minutes / hours, calories, stress, battery days, recovery, altimeter, month, UTC, sunrise / sunset, temperature. Numerals follow the reading's scale (6, 3 or 2 marks). Long-press a subdial to open the watch's own page for its reading.
Motion	Full: the balance beats four times a second and the rotor swings on a wrist raise · Eco: the movement ticks once a second, to save battery · Static: the movement holds still and only the hands move
Hand shadows · Hand lighting	Off, soft, medium, strong · simple or dynamic (the light follows the hands round the dial)
Always-on style	Hands only, or the dial dimmed
Date ring	White or black. Long-press the date window for the calendar, the day / night slot for sunrise and sunset.

Reading the movement

Day / night	The 24-hour wheel turns once a day under the closeout plate. Read the carved symbol in the slot where the horizontal reading groove points.
Rotor (GAM-2xxx)	Raise the wrist: the oscillating weight swings from where it came to rest and settles at 6, at most once every 30 seconds.
Beat	The balance swings at 2 Hz; the escape wheel releases the train four times a second and every seconds hand ticks with it.