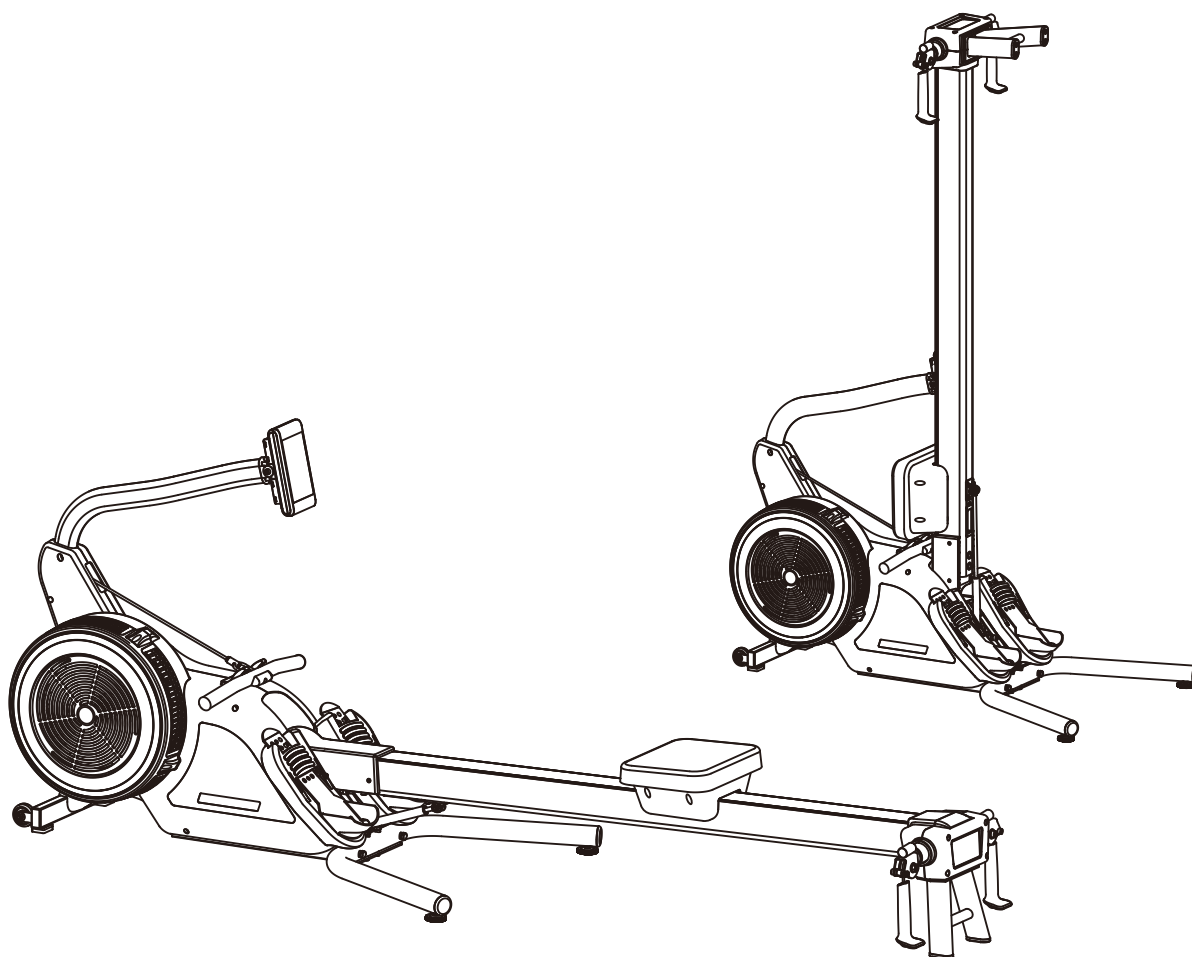




HSR007

SKI & ROW Multiple Training Machine

Owner's Manual

22F Rev C

CAUTION! Read all precautions and instructions in this manual
before using this equipment.

Table Of Contents

! CAUTION

Read all precautions and instructions in this manual before using this equipment.

Warm Up Exercises	5
Parts List and Exploded View	6
Transporting and Usage	29
Maintenance & Service.....	30
Troubleshooting	31
Console Panel Functions	32

Important Safety Instructions

Every Ski-Row is built for maximum safety and meets or exceeds all applicable domestic and international standards. However, certain precautions must be taken when operating any piece of fitness equipment. Always follow basic safety precautions when using this product to reduce the chance of injury, fire, or damage.

Intended Use

- The Ski-Row may be used for rowing, skiing, or other functional training exercises.
- The Ski-Row is appropriate for residential and commercial use.
- The Ski-Row may be used only for its intended use.
- Any additional uses may result in serious personal injury and/or property damage.

Instructions for Owners

- Read all product documentation before operating the unit.
- Save this document and the assembly and console instructions for future reference.
- Assembly of Technical Items: Assembly of the Ski-Row should be performed by a qualified technician. A significant amount of technical knowledge is required for the safe and complete assembly of the unit. Many retailers will offer delivery and assembly as part of the sales agreement. If this unit was sold unassembled (in the cartons) and you do not feel you can perform the assembly successfully, please call your dealer for service. Service calls for improper assembly are not covered by the Warranty Policy and any associated charges will be the responsibility of the owner.
- Assemble and operate the Ski-Row on a solid, level surface.
- Maintain the Ski-Row to keep it in good working condition, as described in this manual. Inspect the Ski-Row for incorrect, worn, or loose components, and then correct, replace, or tighten prior to use.
- If you plan to move the Ski-Row, use proper lifting techniques.
- Do not attempt to service the Ski-Row yourself, except to follow the maintenance instructions in this manual.

Instructions for Owners and Users

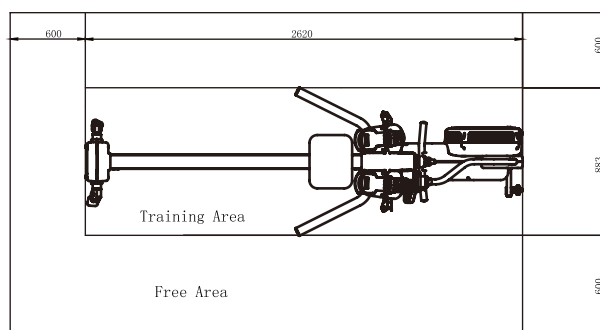
Before beginning any fitness program, you should obtain a thorough medical exam from your physician, particularly if you have high blood pressure, high cholesterol, diabetes, chronic respiratory illness, or heart disease; are pregnant; have a family history of any of the preceding conditions; are over the age of 45; smoke; are obese; have not exercised regularly in the past year; have other chronic illnesses or physical impairments; or are taking any medication. If you experience dizziness, chest pains, nausea or any other abnormal symptoms while utilizing the Ski-Row, stop immediately. Consult a physician before continuing.

Important Safety Instructions

When using Ski-Row, you should always take basic precautions, including the following:

- The Ski-Row should not be used without prior instruction by qualified personnel.
- Do not use while under the influence of alcohol, drugs, or narcotics.
- Do not allow children, or people unfamiliar with the operation of this Ski-Row, on or near it. Do not leave children unsupervised around the Ski-Row.
- Do not allow children under the age of 16 to use the Ski-Row.
- Do not allow animals on the Ski-Row.
- Examine the Ski-Row for loose or worn parts before each use. Tighten/replace any worn or loose components prior to use.
- Do not use outdoors.
- Heart rate monitors are not medical devices. Various factors, including the user's movement, may affect the accuracy of the heart rate readings. The heart rate monitors are intended only as exercise aids in determining heart rate trends in general.
- When using the Ski-Row in the Skiing configuration always stand within the U-shaped support leg boundary.
- Face the console and do not lean on or pull on the console at any time.
- Never drop or insert objects into any opening.
- Keep hands away from moving parts.
- Wear proper exercise clothing and shoes for your workouts and avoid loose or dangling clothing. Tie long hair back. Do not wear shoes with heels, and check the soles of your shoes to remove any dirt and embedded stones.
- Save these instructions.

Training Area and Free Area



Specifications

Class: SB

Maximum User Weight: 150kg/ 330lbs

Product Dimension (level): 2620*810*1060mm

Product Dimension (vertical): 1360*810*2140mm

Product Total Surface: 2620*883mm

Product Total Mass: 66.5kg/ 147lbs

Warm Up Exercises

EXERCISE GUIDELINES

WARNING! Before beginning this or any exercise program, you should consult your physician. This is especially important for individuals over the age of 35 or individuals with pre-existing health problems.

Warming up prepares the body for the exercise by increasing circulation, supplying more oxygen to the muscles and raising body temperature. Begin each workout with 5 to 10 minutes of stretching and light exercise to warm up. The photos on this page show several forms of basic stretching you may perform before your workouts. In order to achieve an adequate warm-up, perform each stretch three times.

TOE TOUCH STRETCH

Stand, bending your knees slightly and slowly bend forward from your hips. Allow your back and shoulders to relax as you reach down toward your toes as far as possible. Hold for 15 counts, then relax. This will stretch your hamstrings, back of knees, and back.

HAMSTRING STRETCH

Sit with one leg extended. Bring the sole of the opposite foot toward you and rest it against the inner thigh of your extended leg. Reach toward your toes as far as possible. Hold for 15 counts, then relax. This will stretch your hamstrings, lower back, and groin.

CALF/ACHILLES STRETCH

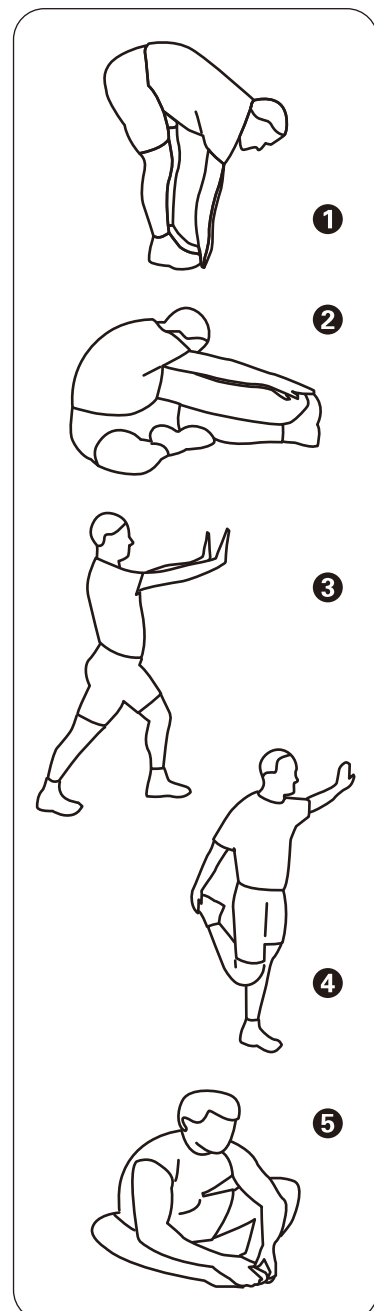
With one leg in front of the other, reach forward and place your hands against a wall. Keep your back leg straight and your back foot flat on the floor. Bend your front leg, lean forward and move your hips toward the wall. Hold for 15 counts, then relax. To cause further stretching of the achilles tendon, bend your back leg as well. This will stretch your calves, achilles tendons, and ankles.

QUADRICEPS STRETCH

With one hand against a wall for balance, reach back and grasp one foot with your other hand. Bring your heel as close to your buttocks as possible. Hold for 15 counts, then relax. This will stretch your quadriceps and hip muscles.

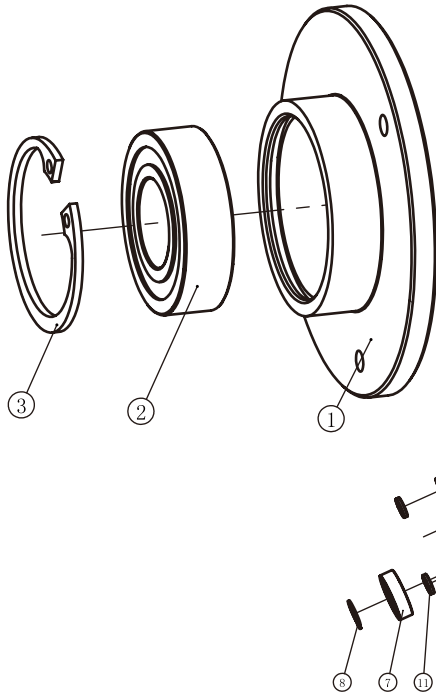
INNER THIGH STRETCH

Sit with the soles of your feet together and your knees outward. Pull your feet toward your groin area as far as possible. Hold for 15 counts, then relax. This will stretch your quadriceps and hip muscles.

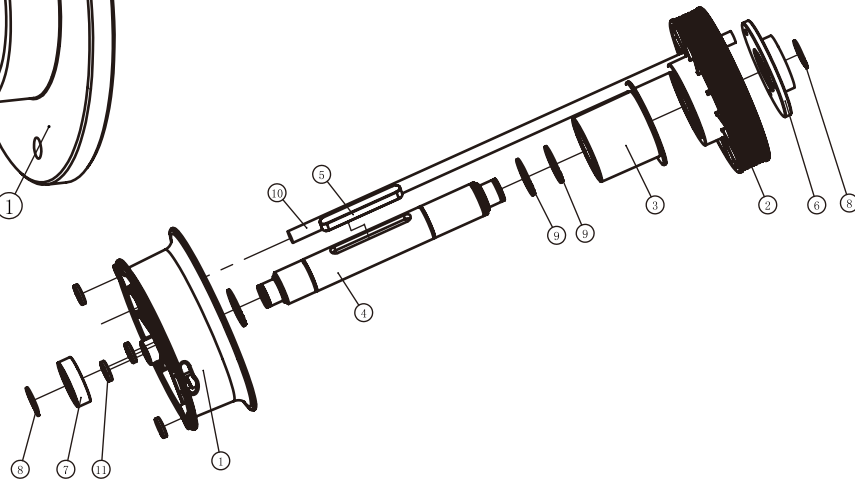


Parts List and Exploded View

Bearing Assembly



Rope Reel Assembly

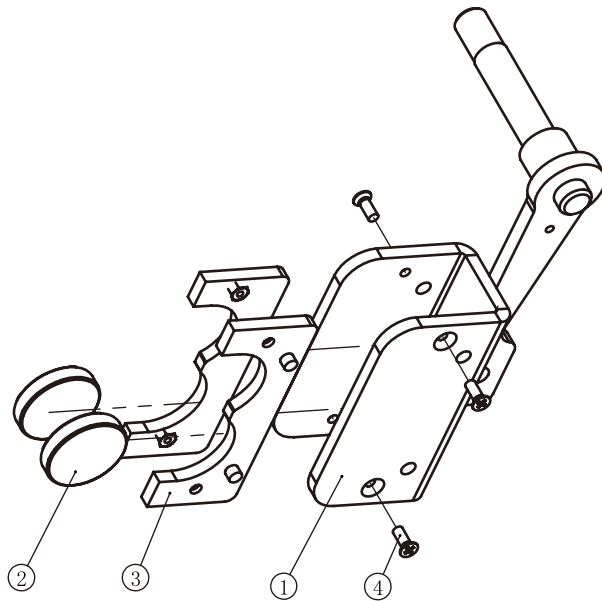


ItemNo.	Grade No.	Part No.	Description	QTY
1	1.2.7.1	IS4001900	Bearing Block	1
2	1.2.7.2	GB2766003-2RSC3NBK	Bearing 6003	1
3	1.2.7.3	GB893.135FH12	Circlip For Hole	1

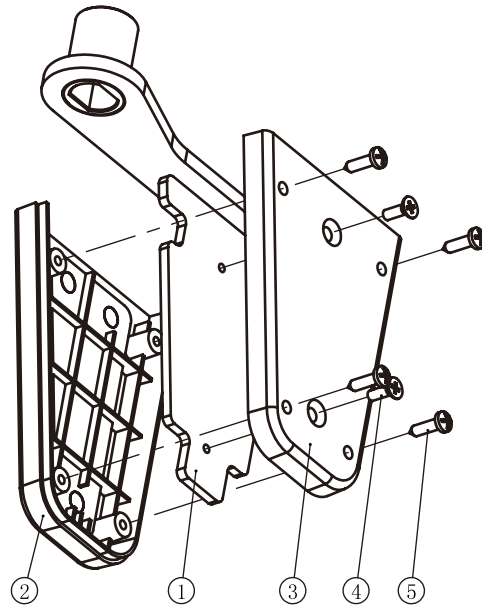
ItemNo.	Grade No.	Part No.	Description	QTY
1	1.2.1	SR77000	Rope reel	1
2	1.2.2	SR72200ASSY	Pulley Assembly	1
3	1.2.3	SR78500	Rope Wheel	1
4	1.2.4	SR71800	Mean Axis	1
5	1.2.5	SR710500	Flat Key	1
6	1.2.6	SR71900ASSY	Bearing Assembly	1
7	1.2.7	GB2766003-2RSC3NBK	Bearing 6003	1
8	1.2.8	GB94.117FH12	External Retaining Ring $\Phi 17$	2
9	1.2.9	GB894.125FH12	External Retaining Ring $\Phi 25$	3
10	1.2.10	SR717500	Bungee Cord	1
11	1.2.11	IE951814700	magnet	4

Parts List and Exploded View

Magnet Frame Assembly



Switch Assembly



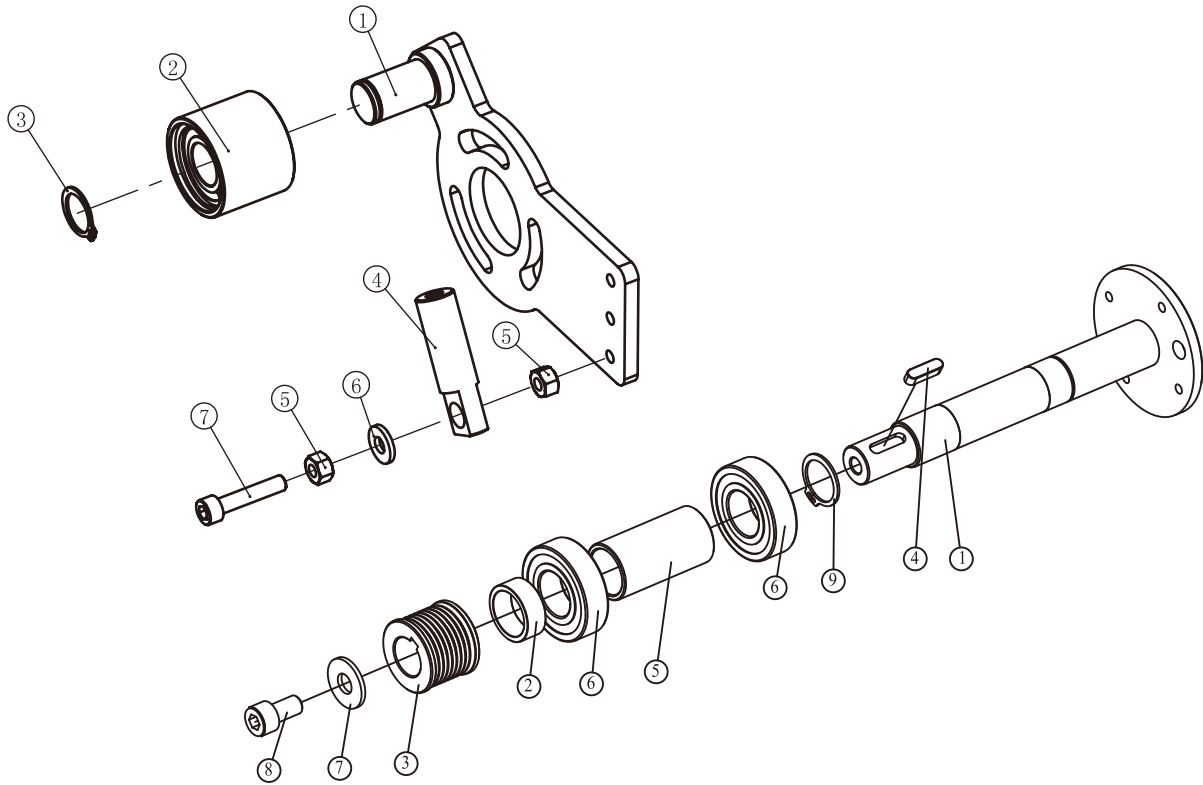
ItemNo.	Grade No.	Part No.	Description	QTY
1	1.5.1	SR71900	Magnet Frame	1
2	1.5.2	GR500A0900	Powerful Magnet	4
3	1.5.3	GR5002000G	Fixed Plate	2
4	1.5.4	GB819M3*8DS2	Cross Recessed Raised Countersunk Head Screws M3*8	4

ItemNo.	Grade No.	Part No.	Description	QTY
1	1.7.1	SR79500	switch	1
2	1.7.2	SR717200	Front Shroud	1
3	1.7.3	SR76800	Back Shroud	1
4	1.7.4	GB819M4*12DS2	Cross Recessed Raised Countersunk Head Screws	2
5	1.7.5	GB845ST4.2*16DHS	Pan Head Tapping Screws With Cross Recessed 4.2*16	4

Parts List and Exploded View

Tension Frame Assembly

Fan Shaft Assembly

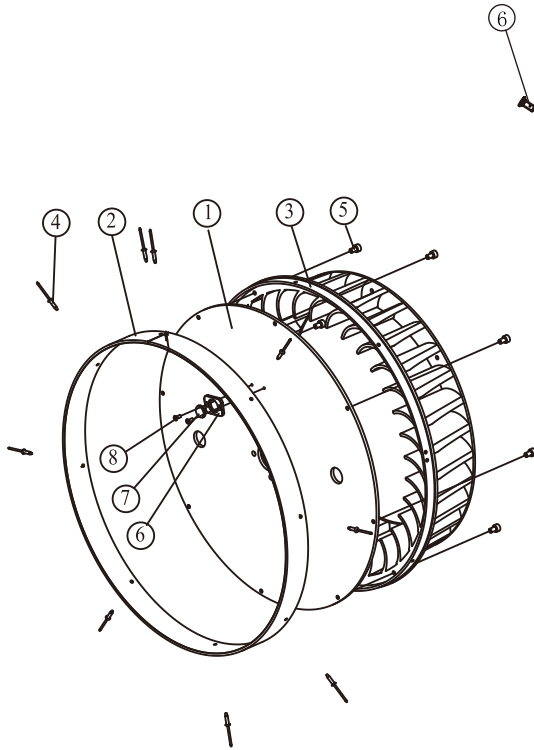


ItemNo.	Grade No.	Part No.	Description	QTY
1	1.4.1	SR73100V1	Tension Frame	1
2	1.4.2	SR7C3100ASSY	Bearing Assembly	1
3	1.4.3	GB894.117FH	External Retaining Ring $\Phi 17$	1
4	1.4.4	TBT0800	Nut set	1
5	1.4.5	GB41M6DS2	Nut M6	2
6	1.4.6	DQ6DS2	Washer $\Phi 6$	1
7	1.4.7	GB70M6*30DS4	Screw M6*30	1

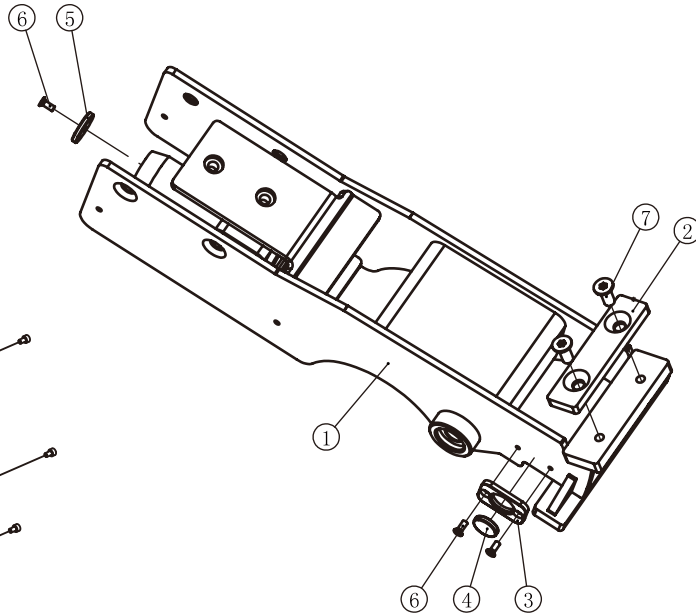
ItemNo.	Grade No.	Part No.	Description	QTY
1	1.9.1	SR72600HJ	Fan shaft welding	1
2	1.9.2	SR72900V1	FAN Spacer	1
3	1.9.3	SR73000	Belt Pulley	1
4	1.9.4	SR713700	Flat key	1
5	1.9.5	SR716900V1	FAN Spacer2	1
6	1.9.6	GB2766004-2RSC3NBK	Bearing 6004	2
7	1.9.7	DQ8DHS2A	Washer $\Phi 8$	1
8	1.9.8	GB70M8*15DS20NL	Screw 8*15	1
9	1.9.9	GB894.120FH12	cirdip for shaft	1

Parts List and Exploded View

Fan Assembly



Turrethead Assembly



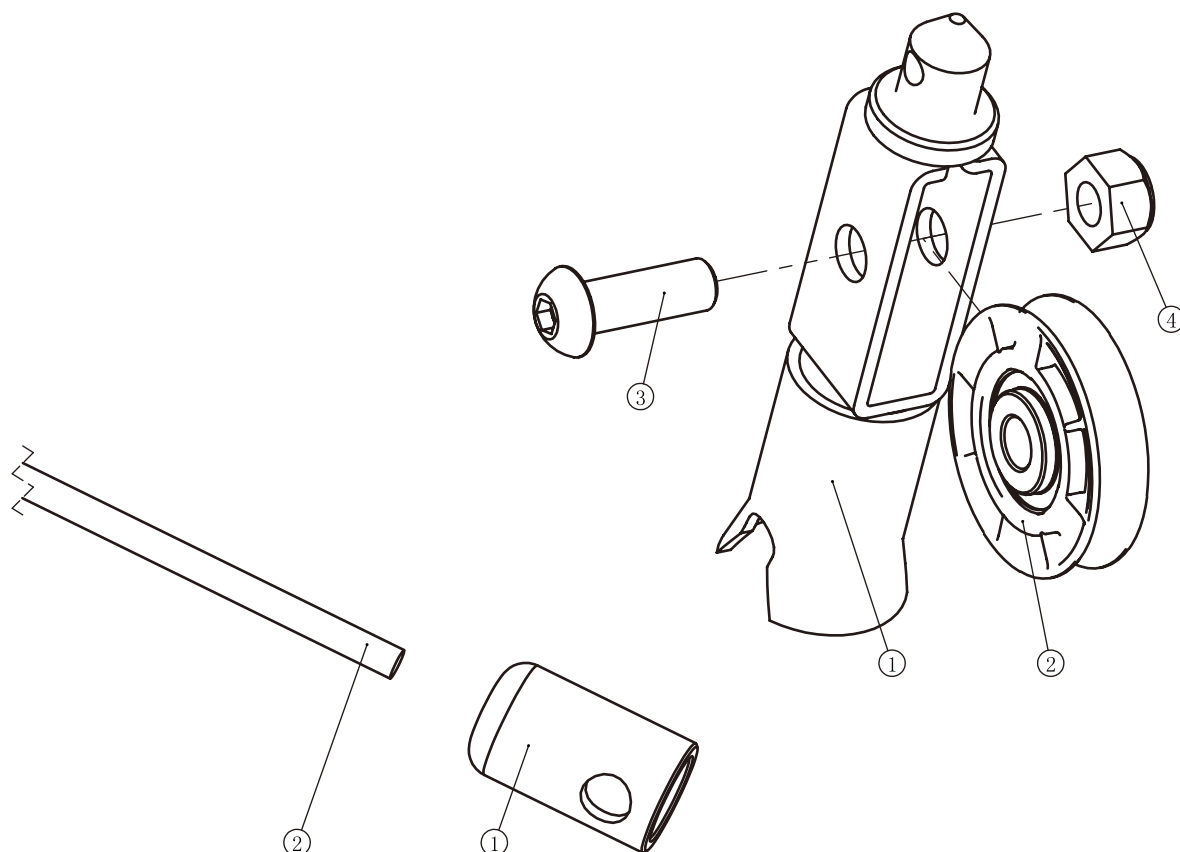
ItemNo.	Grade No.	Part No.	Description	QTY
1	1.3.1	SR72502V1	Fan Plate	1
2	1.3.2	SR72503	Aluminum Ring	1
3	1.3.3	SR72504	Fan	1
4	1.3.4	GB126183.2*15N11	Rivet	9
5	1.3.5	GB70M5*8DS4	Screw 5*8	8
6	1.3.6	SR76500	Magnet plate	1
7	1.3.7	IE951814700	Magnet	1
8	1.3.8	GB819M3*8DS2	Screw 3*8	2

ItemNo.	Grade No.	Part No.	Description	QTY
1	1.8.1	SR71000	Turrethead	1
2	1.8.2	SR71100	locking piece	1
3	1.8.3	SR76500	magnet plate	1
4	1.8.4	IE951814700	magnet	1
5	1.8.5	SR78400	Plastic sheet	1
6	1.8.6	GB819M3*8DS2	Cross Recessed Raised Countersunk Head Screws M3*8	3
7	1.8.7	CNLM6*15DS2	Countersunk Head Bolt M6*15	2

Parts List and Exploded View

Rowing Ropes Assembly

Adapting Piece Assembly



ItemNo.	Grade No.	Part No.	Description	QTY
1	1.11.1	SR719000	Ropes Cover	1
2	1.11.2	SR717300	Rowing Ropes	1

ItemNo.	Grade No.	Part No.	Description	QTY
1	1.12.1	SR7B0900	Pulley Yoke	1
2	1.12.2	SR79900	Pulley	1
3	1.12.3	PNLM10*30DS2	Screw M10*30	1
4	1.12.4	NM10DS2	Nut M10	1

Parts List and Exploded View

Base Frame

ItemNo.	Grade No.	Part No.	Description	QTY
1	1.1	SR7C0100	Main Frame	1
2	1.2	SR7B1800ASSY	Rope Reel Assembly	1
3	1.3	SR7C2502ASSY	Fan Assembly	1
4	1.4	SR7C3100ASSY	Tension Frame Assembly	1
5	1.5	SR70500ASSY	Tension Frame Assembly	1
6	1.6	SR7B1300	Lock Plate	1
7	1.7	SR70700V1ASSY	Switch Assembly	1
8	1.8	SR7B1000ASSY	Turrethead Assembly	1
9	1.9	SR73200V1ASSY	Fan shaft Assembly	1
10	1.10	SR72900ASSY	The Handle Assembly	1
11	1.11	SR73000ASSY	Rowing Ropes Assembly	1
12	1.12	SR7B2400ASSY	Adapting Piece Assembly	1
13	1.13	SR77000ASSY	Sensor Assembly	1
14	1.14	SR76400ASSY	Sensor Assembly 2	1
15	1.15	SR794900	Left Fan Cover Assembly	1
16	1.16	SR75000	Air Outlet Cover	4
17	1.17	SR75100	Right Fan Cover	1
18	1.18	SR794400	Left Side Cover Assembly	1
19	1.19	SR794500	Right Side Cover Assembly	1
20	1.20	SR74000	middle Cover	1
21	1.21	SR76900	Handle Hook	1
22	1.22	SR76300	Handle Decoration Cover	1
23	1.23	SR75700	Left Pedal Cover	1
24	1.24	SR75800	Right Pedal Cover	1
25	1.25	SR77600V1	reel	5
26	1.26	SR715800	Rotating Sleeve	2
27	1.27	SR72400	Torsional Spring	1
28	1.28	SR716400	Adjusting Screw	1
29	1.29	SR717000	Cable	1
30	1.30	SR714800	location-limited plate	1
31	1.31	PNLM5*20DHS20	Screw M5*20	3
32	1.32	SR715600	Copper	6
33	1.33	SR71500	Washer	1
34	1.34	SR716100	Torsional Spring	1
35	1.35	SR716200	Fixed plate	1
36	1.36	SR716300	End cover	1
37	1.37	SR76900ASSY	Sensor Assembly 3	1
38	1.38	SR71200	Shoulder Bolt M12	2
39	1.39	SR715100	U-shaped hook	1
40	1.40	SR72700	Gas Spring	1
41	1.41	SR716800	Foot Strap	2
42	1.42	DP86703100V1	PU Wheel	2
43	1.43	BNH0008	Plug	2
44	1.44	DC1600A9200	Foot	2
45	1.45	SR79800	V pulley	5

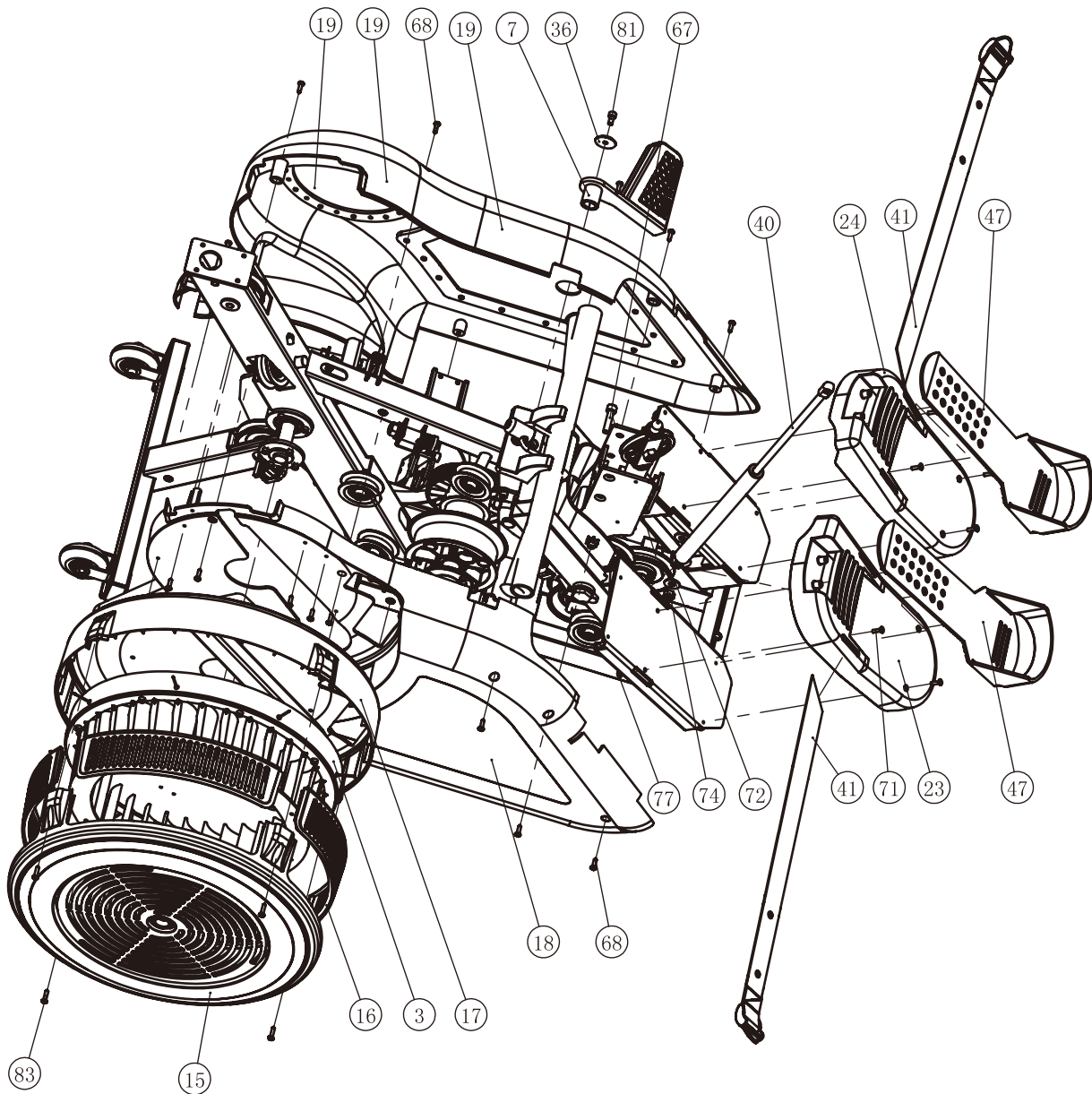
Parts List and Exploded View

Base Frame

ItemNo.	Grade No.	Part No.	Description	QTY
46	1.46	V37100	Small pulley	1
47	1.47	IS4005100	Adjustment plate	2
48	1.48	DXD951J8	Poly V-belt	1
49	1.49	D46-C	Motor	1
50	1.50	SR713800	Pressing Plate	1
51	1.51	TBT1800	Compression Spring	1
52	1.52	DQXK14	U-tape clip	12
53	1.53	ECU7P3500	Plastic Nut	23
54	1.54	SR7C8800	Rotating Sleeve	3
55	1.55	GB17880.5M6*16.5DS17	Rivet Nut	2
56	1.56	GB17880.5M8*16.5DCS17	Rivet Nut	2
57	1.57	GB894.118FH12	External Retaining Ring Φ 18	2
58	1.58	GB70M8*45DHS20	Screw M8*45	2
59	1.59	GB70M10*20DS20NL	Screw M10*20	5
60	1.60	GB70M10*40DS20	Screw M10*40	2
61	1.61	L300MX43025-SMY-12	End Of The Electronic Watch Wire	1
62	1.62	GB70M8*115*50DS20	Screw M8*115	1
63	1.63	GB70M5*10DS4	Screw M5*10	6
64	1.64	GB70M8*30FH21NL	Screw M8*30	2
65	1.65	GB70M6*20DS4NL	Screw M6*20	2
66	1.66	GB70M10*125*125DHS18	Screw M10*125	2
67	1.67	GB70M8*35DHS20	Screw M8*35	1
68	1.68	GB845ST4.2*16DHS	Pan Head Tapping Screws With Cross Recessed 4.2*16	34
69	1.69	GB818M4*12DS2	Cross slotted head screw M4*12	11
70	1.70	CNLM10*60DS20NL	Countersunk Head Bolt M10*60	1
71	1.71	GB819M4*16DHS2	Cross Recessed Raised Countersunk Head Screws M4*16	8
72	1.72	DQ8DHS2A	Washer Φ 8	7
73	1.73	DQ10DHS2A	Washer Φ 10	1
74	1.74	NM8DHS2	Nut M8	3
75	1.75	NM10DS2	Nut M10	2
76	1.76	NM6DS2	Nut M6	3
77	1.77	NM4DS2	Nut M4	4
78	1.78	GB41M10DHS2	Nut M10	2
79	1.79	GB70M10*50DS20	Screw M10*50	1
80	1.80	IS4002300	Bearing Block	1
81	1.81	GB70M6*12DHS2	Screw M6*12	1
82	1.82	GB41M8DHS2	Nut M8	1
83	1.83	GB845ST4.2*19DHS19	Pan Head Tapping Screws With Cross Recessed 4.2*19	4
84	1.84	GB70M5*12DS20NL	Screw M5*12	4
85	1.85	SR71920	Spacer Shim	2
86	1.86	GB5780M10*35DHS20	Screw M10*35	2
87	1.87	PSLAT34200	Pulley Casing	1
88	1.88	GB70M5*10DS20	Screw M5*10	7
89	1.89	GB16824.1ST3.9*16DS	Cross Recessed Raised Countersunk Head Screws 3.9*16	2

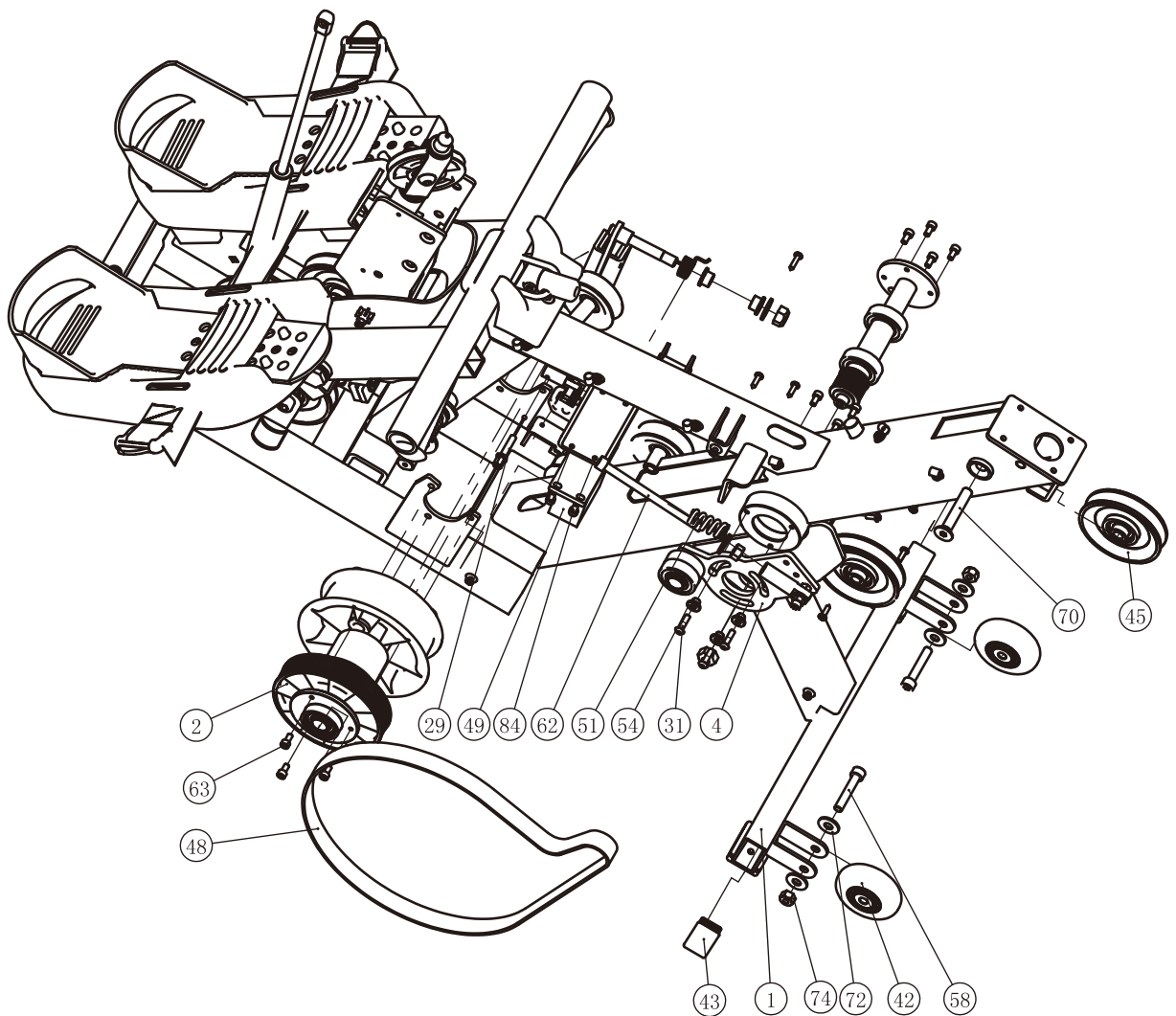
Parts List and Exploded View

Base Frame



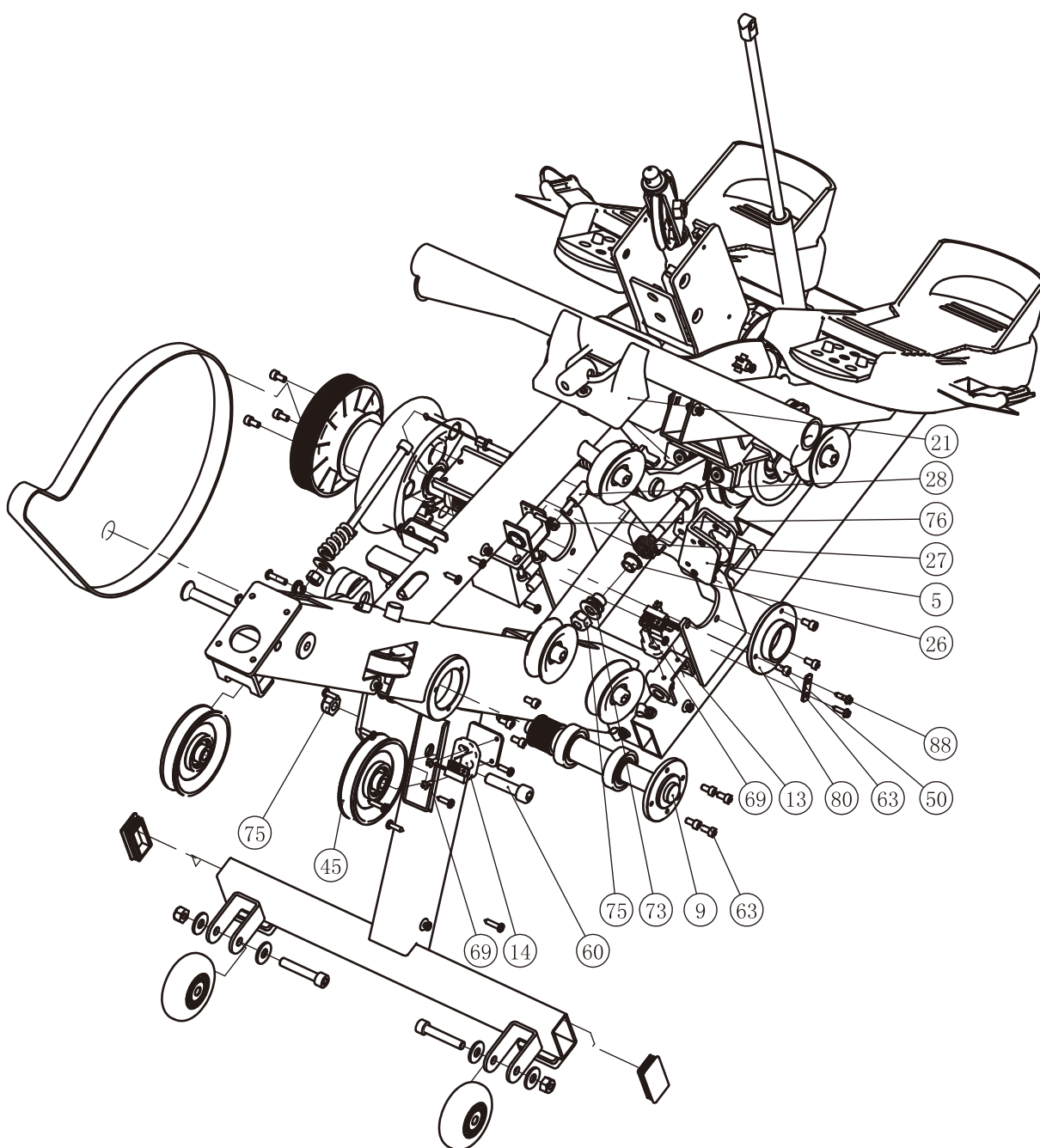
Parts List and Exploded View

Base Frame



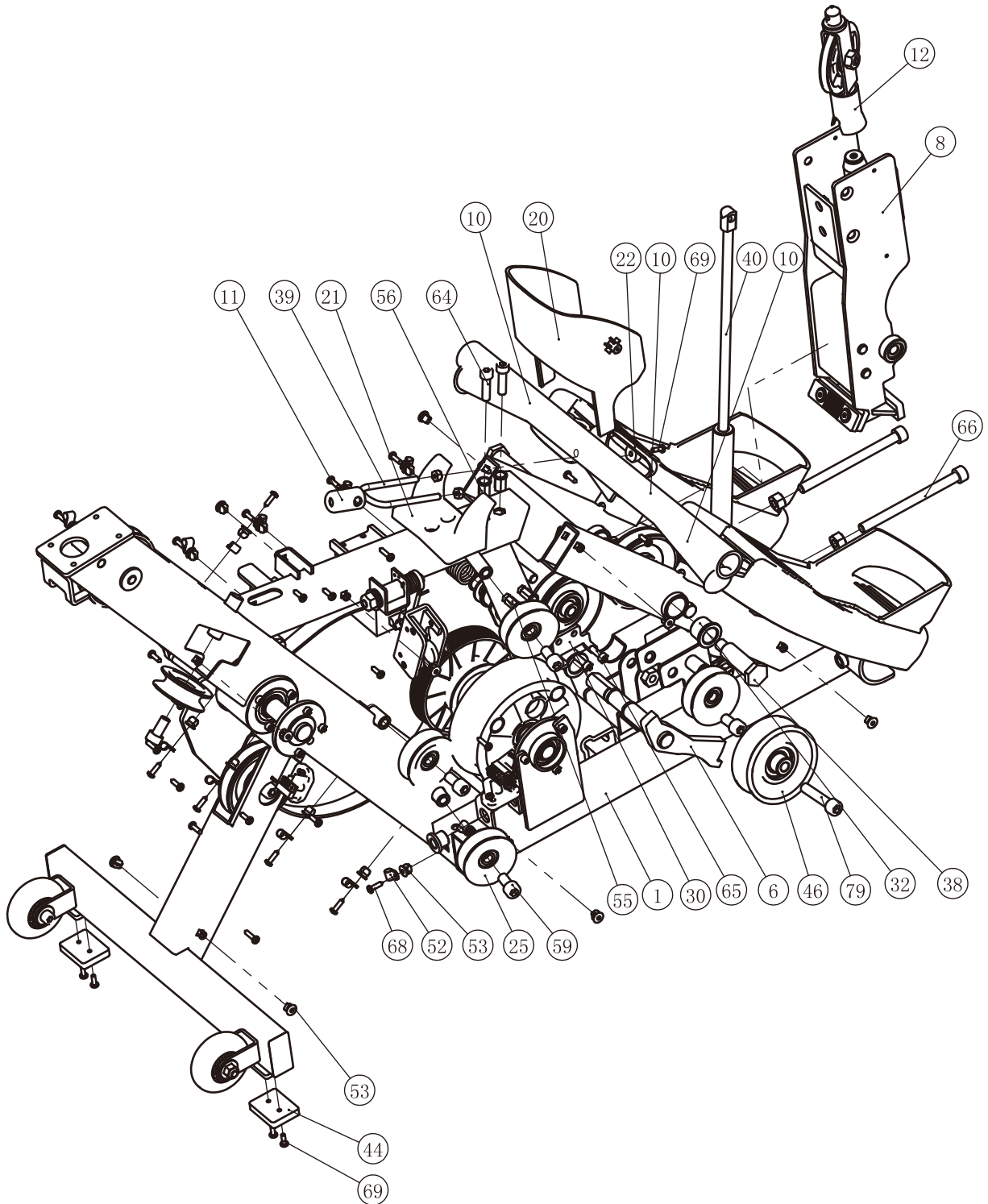
Parts List and Exploded View

Base Frame



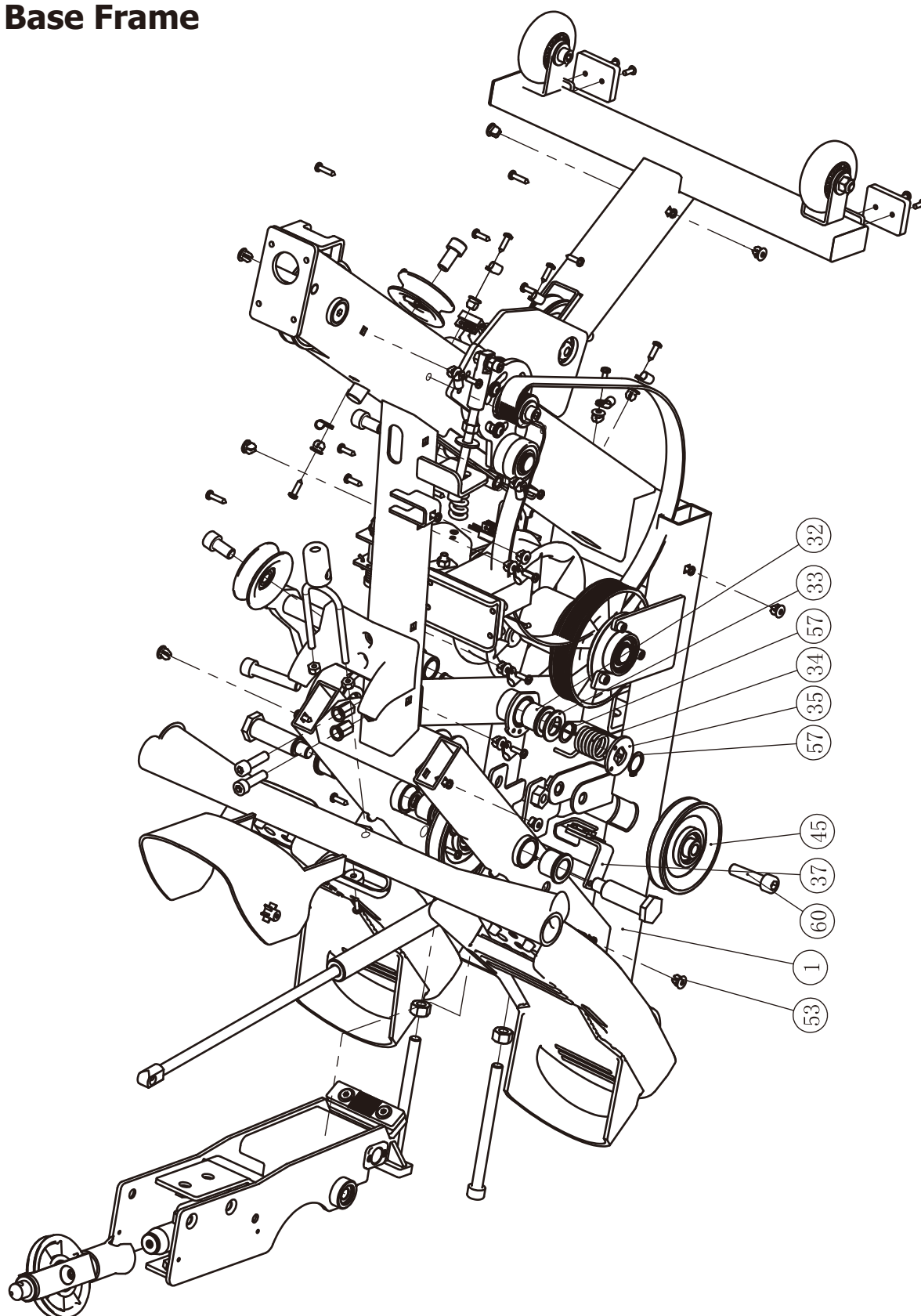
Parts List and Exploded View

Base Frame



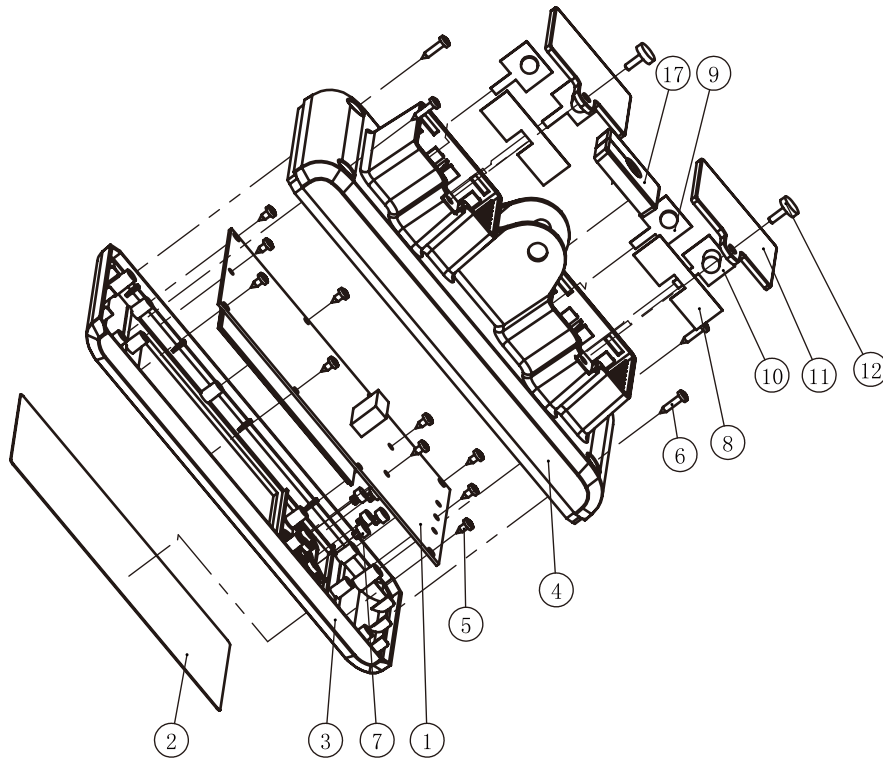
Parts List and Exploded View

Base Frame



Parts List and Exploded View

Console

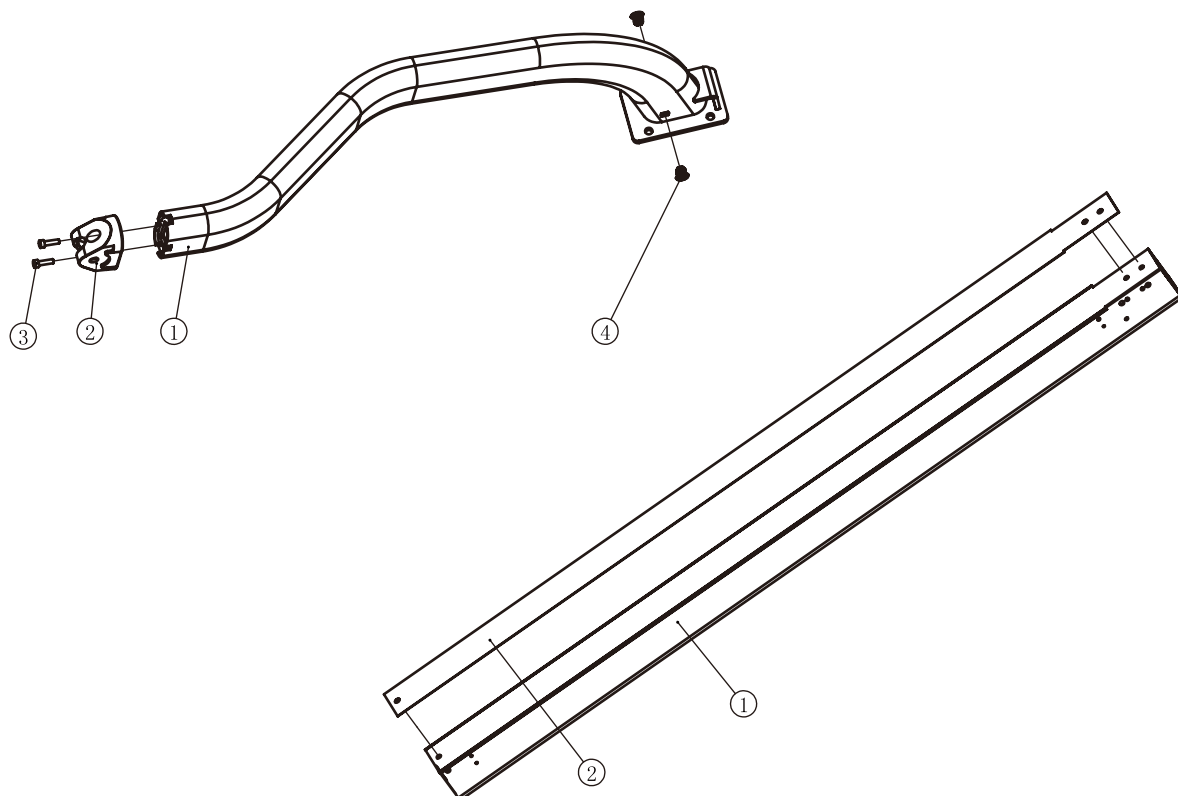


ItemNo.	Grade No.	Part No.	Description	QTY
1	8.1	B240-SR7	Electronic table	1
2	8.2	SR007MM01	mask	1
3	8.3	SR75300	Front Shroud Of Table	1
4	8.4	SR75400	Back Shroud Of Table	1
5	8.5	GB845ST2.9*6.5DS	Pan Head Tapping Screws With Cross Recessed 2.9*6.5	10
6	8.6	ECT74800	rubber blanket	6
7	8.7	GB845ST2.9*13DHS	Pan Head Tapping Screws With Cross Recessed 2.9*13	4
8	8.8	EHDCLP	Battery Piece	2
9	8.9	EHDCZJP	Anode Battery Piece	2
10	8.10	EHDCFJP	Cathode Battery Piece	2
11	8.11	SR75500	Battery Cover	2
12	8.12	GB843M3*10N19	Hand Screw M3*10	2
13	8.13	L1050XHB-MX43020-12	Top Of The Electronic Watch Wire	1
14	8.14	L200MX43025-2	Power Cord	1
15	8.15	L50-1	Battery Cable	1
16	8.16	DQLY01	Bluetooth Module	1
17	8.17	SR719100	Plug	1

Parts List and Exploded View

Console Mast

Aluminum Rail/Corrosion Resistant Plate

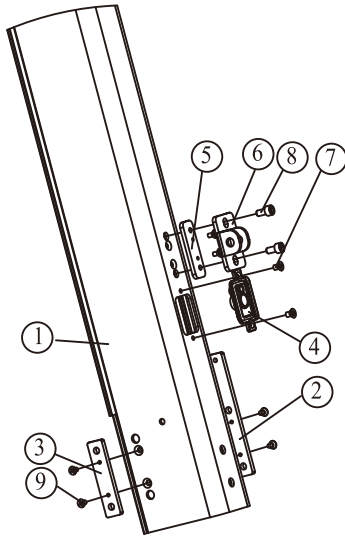


ItemNo.	Grade No.	Part No.	Description	QTY
1	7.1	SR79600	Electronic table brace	1
2	7.2	SR75600	Fixing Rack	1
3	7.3	GB70M4*15*15DS20	Screw M4*15	2
4	7.4	ECU7P3500	Plastic Nut	2

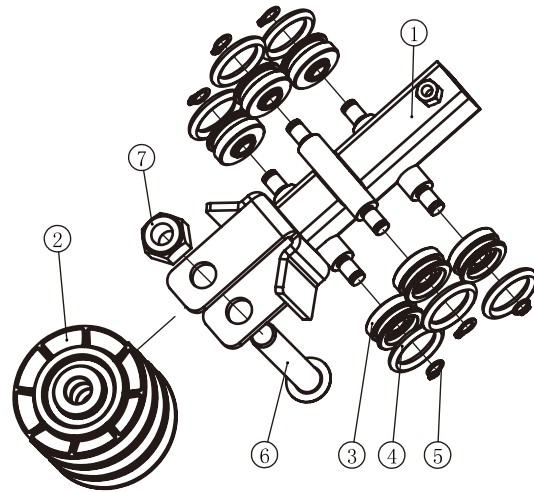
ItemNo.	Grade No.	Part No.	Description	QTY
1	6.1.1.1	SR73601	Aluminum rail	1
2	6.1.1.2	SR73602	Corrosion Resistant Plate	1

Parts List and Exploded View

Aluminum Rail Assembly



Sliding Parts Assembly

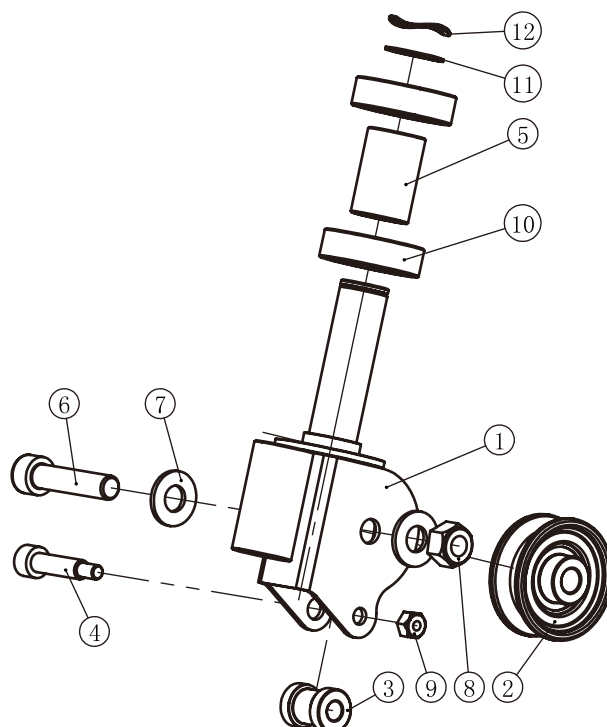


ItemNo.	Grade No.	Part No.	Description	QTY
1	6.1.1	SR7B3600	Aluminum Rail/Corrosion Resistant Plate	1
2	6.1.2	SR73700	Thread Plate 1	1
3	6.1.3	SR7B3700	Thread Plate	1
4	6.1.4	SR79700	Aluminum Rail Plug	1
5	6.1.5	SR7B3800	Thread Plate 2	1
6	6.1.6	SR7B0600	Gas Spring cap plate	1
7	6.1.7	GB819M4*8DS2	Screw M4*8	6
8	6.1.8	GB70M6*12DHS2	Screw M6*12	2
9	6.1.9	GB819M5*8DHS2	Screw M5*8	2

ItemNo.	Grade No.	Part No.	Description	QTY
1	6.2.1	SR7B0800	Sliding Parts	1
2	6.2.2	SR77700	Pulley	3
3	6.2.3	SR77801	guide pulley	8
4	6.2.4	GB3452.117.8*3.55	O Ring	8
5	6.2.5	GB894.16FH12	External Retaining Ring Φ6	8
6	6.2.6	PNLM10*60DS2	Screw M10*60	1
7	6.2.7	NM10DS2	Nut	1

Parts List and Exploded View

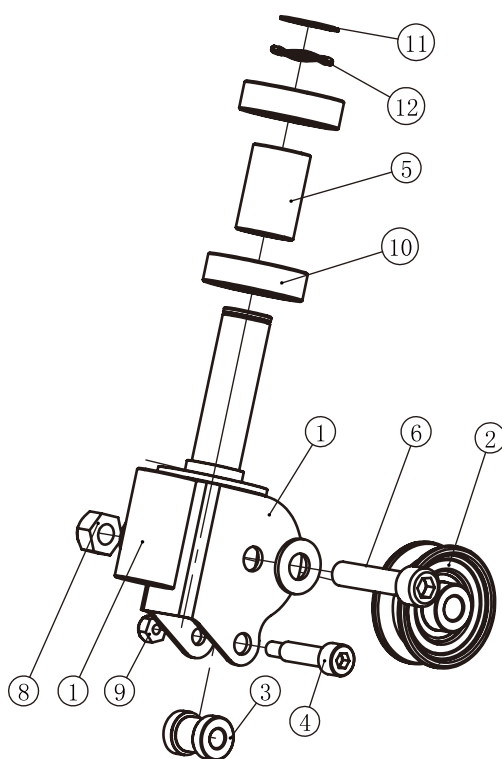
Rotary Pulley Holder Assembly



ItemNo.	Grade No.	Part No.	Description	QTY
1	6.3.2.1	SR714500	Rotary Pulley Holder	1
2	6.3.2.2	FTX7300V2	Pulley	1
3	6.3.2.3	SR78000	Plastic cover	1
4	6.3.2.4	SR79200	Shoulder Bolt M6	1
5	6.3.2.5	SR714600	Spacer	1
6	6.3.2.6	GB70M10*45DHS4	Screw M10*45	1
7	6.3.2.7	DQ10DHS2A	Washer Φ10	2
8	6.3.2.8	NM10DHS2	Nut M10	1
9	6.3.2.9	NM6DHS2	Nut M6	1
10	6.3.2.10	GB2766004-2RSC3NBK	Bearing 6004	2
11	6.3.2.11	GB894.120FH12	External Retaining Ring Φ20	1
12	6.3.2.12	BXDQ26*20*1.5	Wave Washer	1

Parts List and Exploded View

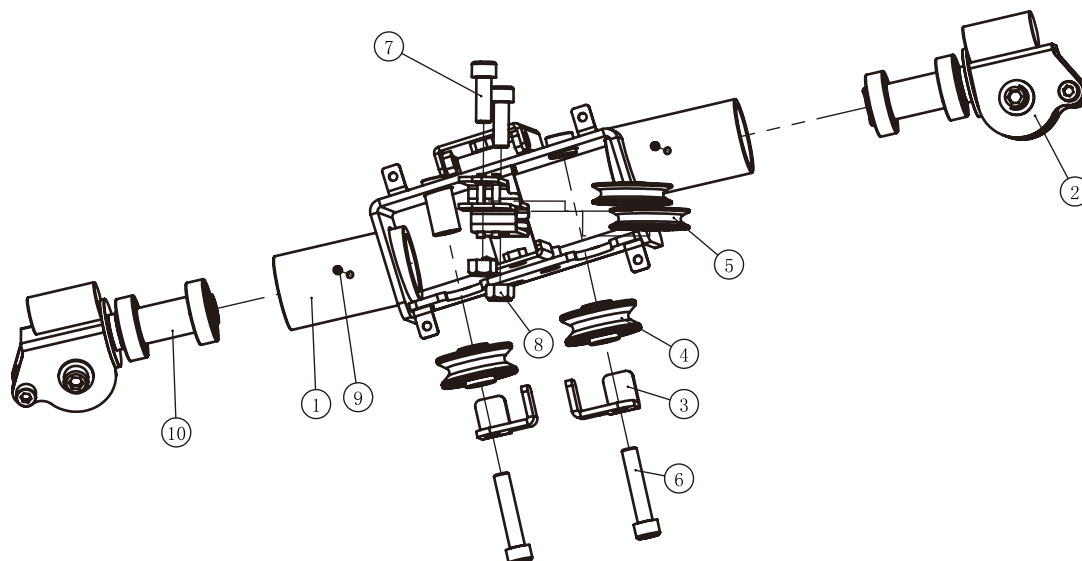
Rotary Pulley Holder Assembly 2



ItemNo.	Grade No.	Part No.	Description	QTY
1	6.3.2.1	SR714500V1	Rotary Pulley Holder2	1
2	6.3.2.2	FTX7300V2	Pulley	1
3	6.3.2.3	SR78000	Plastic cover	1
4	6.3.2.4	SR79200	Shoulder Bolt M6	1
5	6.3.2.5	SR714600	Spacer	1
6	6.3.2.6	GB70M10*45DHS4	Screw M10*45	1
7	6.3.2.7	DQ10DHS2A	Washer $\Phi 10$	2
8	6.3.2.8	NM10DHS2	Nut M10	1
9	6.3.2.9	NM6DHS2	Nut M6	1
10	6.3.2.10	GB2766004-2RSC3NBK	Bearing 6004	2
11	6.3.2.11	GB894.120FH12	External Retaining Ring $\Phi 20$	1
12	6.3.2.12	BXDQ26*20*1.5	Wave Washer	1

Parts List and Exploded View

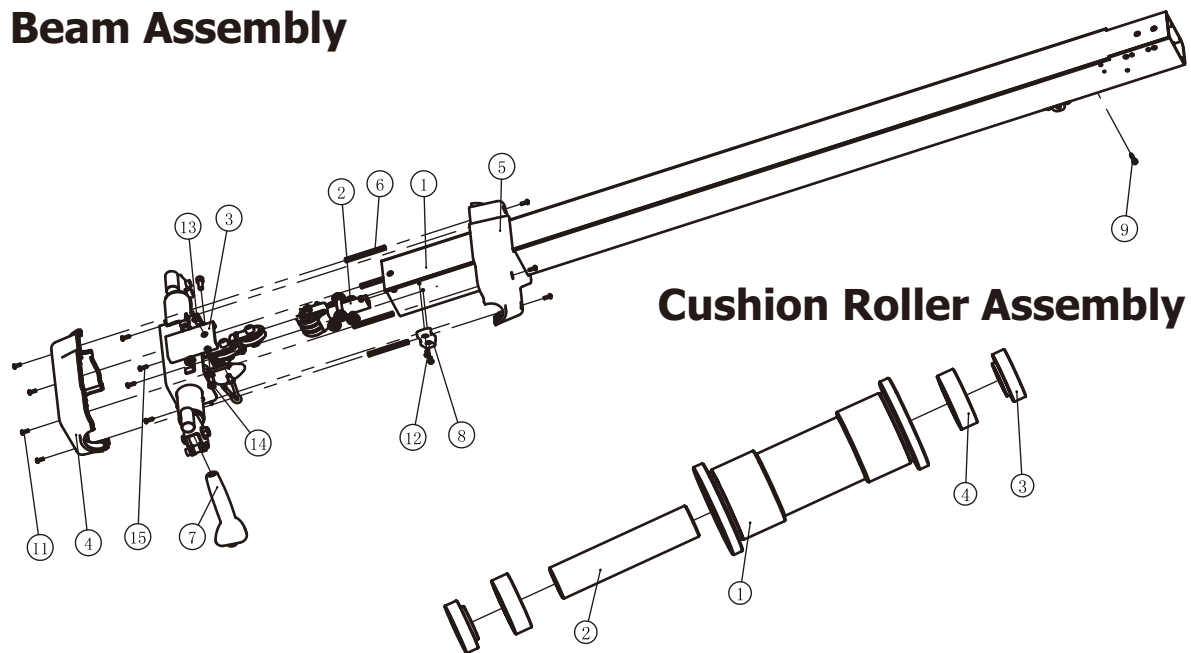
Upper Support Frame Assembly



ItemNo.	Grade No.	Part No.	Description	QTY
1	6.3.1	SR70200	Support Frame	1
2	6.3.2	SR72700ASSY	Rotary Pulley Holder Assembly	1
3	6.3.3	SR715300	Limit piece	2
4	6.3.4	FTX7300V2	Pulley	2
5	6.3.5	SR77700	Pulley	2
6	6.3.6	GB70M10*50DS20	Screw M10*50	2
7	6.3.7	GB70M10*30DS20	Screw M10*30	2
8	6.3.8	NM10DS2	Nut M10	2
9	6.3.9	GB77M5*6N19	Hexagon socket set screws with flat point	4
10	6.3.10	SR72700V1ASSY	Rotary Pulley Holder Assembly 2	1

Parts List and Exploded View

Beam Assembly

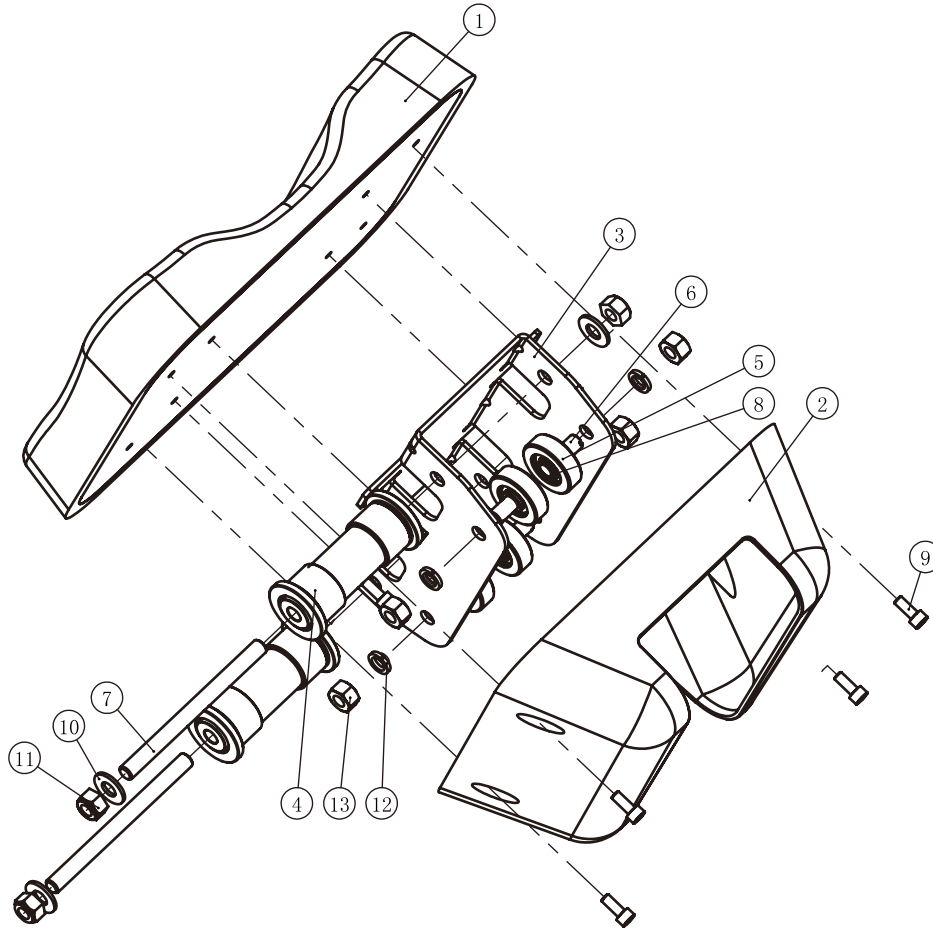


ItemNo.	Grade No.	Part No.	Description	QTY
1	6.1	SR7B0600ASSY	Aluminum Rail Assembly	1
2	6.2	SR7B2300ASSY	Sliding Parts Assembly	1
3	6.3	SR72800ASSY	Upper Support Frame Assembly	1
4	6.4	SR74700	Back Cover 1	1
5	6.5	SR74800	Back Cover 2	1
6	6.6	SR714400	Threaded Column	4
7	6.7	HSR72100ASSY	SkiHandle	2
8	6.8	SR79100	Crash Pad	1
9	6.9	SR7B15400	Shoulder Bolt M5	1
10	6.10	SR717400	Ski Rope	1
11	6.11	GB818M4*12DS2	Cross slotted head screw M4*12	8
12	6.12	GB818M5*10DS2	Cross slotted head screw M5*10	2
13	6.13	PNLM8*15DS20NL	Screw M8*15	2
14	6.14	GB70M8*20N19NL	Screw M8*20	2
15	6.15	GB845ST4.2*16DHS	Pan Head Tapping Screws With Cross Recessed 4.2*16	4

ItemNo.	Grade No.	Part No.	Description	QTY
1	3.4.1	SR78200	Cushion Roller	1
2	3.4.2	SR73500	Roller Spacing	1
3	3.4.3	SR78100	Bearing Spacer	2
4	3.4.4	GB2766000-2RSC3NBK	Bearing 6000	2

Parts List and Exploded View

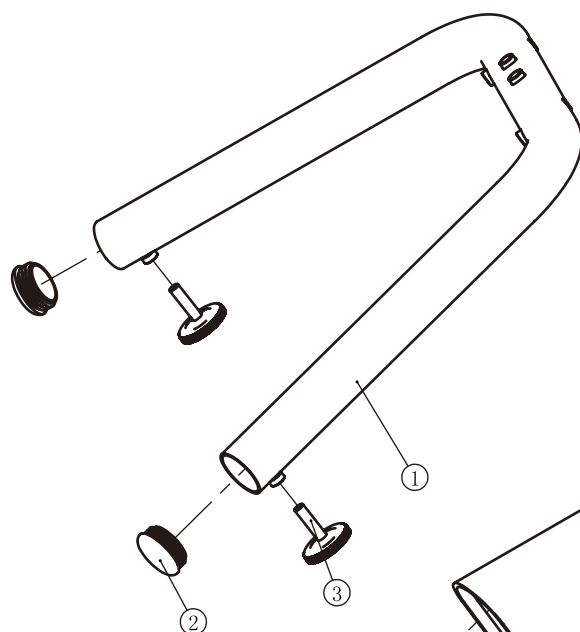
Seat Assembly



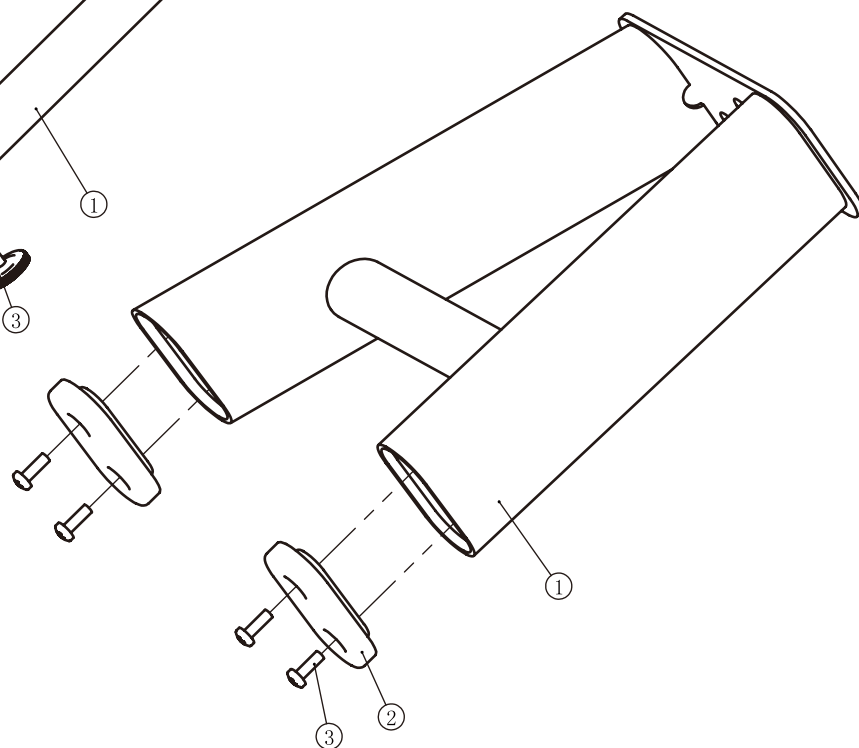
ItemNo.	Grade No.	Part No.	Description	QTY
1	3.1	SR77900	Cushion	1
2	3.2	SR75900	Cushion Cover	1
3	3.3	SR73900	Cushion Plate	1
4	3.4	SR71300ASSY	Cushion Roller Assembly	2
5	3.5	SR78300	Seat Slip Wheel	4
6	3.6	SR715000	shaft	4
7	3.7	SR714900	stud	2
8	3.8	GB894.110FH12	External Retaining Ring $\Phi 25$	4
9	3.9	GB70M6*15DHS4	Screw M6*15	8
10	3.10	DQ10DHS2A	Washer $\Phi 10$	4
11	3.11	NM10DHS2	Nut M10	4
12	3.12	GB9310DHS12	spring shim	4
13	3.13	GB41M10DHS2	Nut M10	4

Parts List and Exploded View

Leg Assembly



Rear Foot Assembly



ItemNo.	Grade No.	Part No.	Description	QTY
1	5.1	SR71700	Rear Base	1
2	5.2	BNH0004	Plug	2
3	5.3	PS3000900	Foot	2

ItemNo.	Grade No.	Part No.	Description	QTY
1	4.1	SR714300	underneath Support Frame	1
2	4.2	SR714100	Foot	2
3	4.3	GB818M4*12DS2	Cross slotted head screw M4*12	4

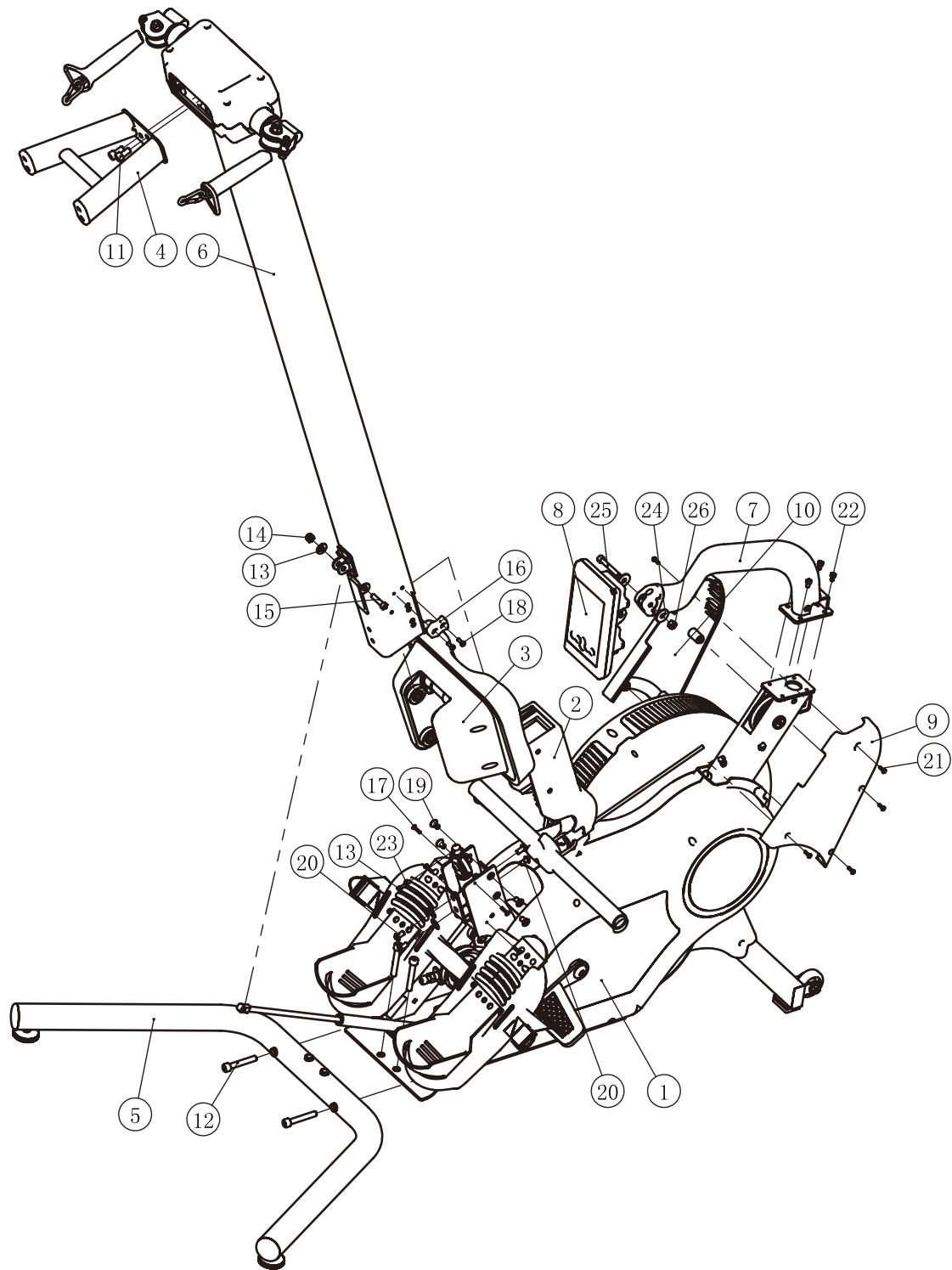
Parts List and Exploded View

Overall

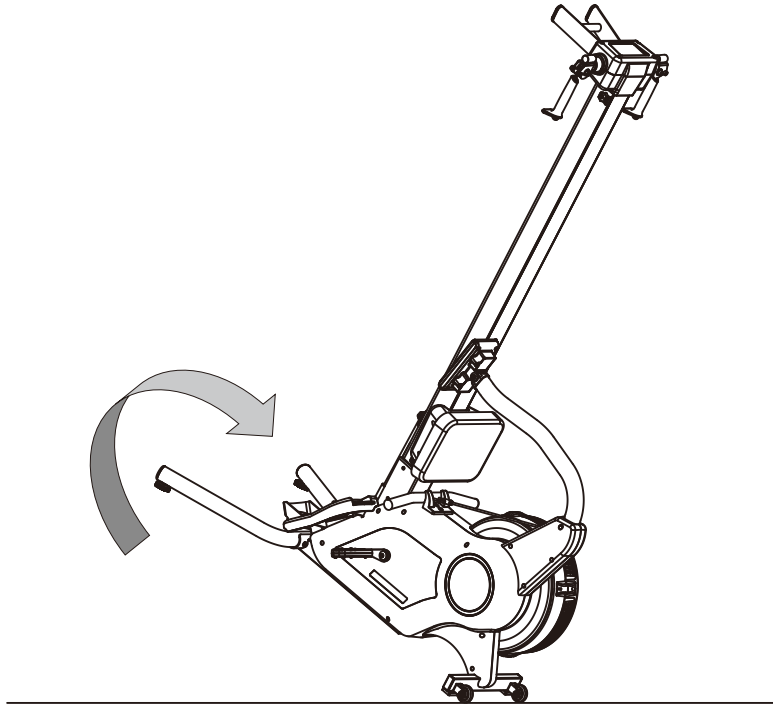
ItemNo.	Grade No.	Part No.	Description	QTY
1	1	SR7C0100ASSY	BASE FRAME	1
2	2	SR74300	PIVOT SHROUD	1
3	3	SR72600ASSY	SEAT ASSEMBLY	1
4	4	SR714300ASSY	REAR FOOT	1
5	5	SR71700ASSY	LEG ASSEMBLY	1
6	6	SR7B0200ASSY	BEAM ASSEMBLY	1
7	7	SR70400ASSY	CONSOLE MAST	1
8	8	SR71500ASSY	CONSOLE	1
9	9	SR74200	RIGHT MAST SHROUD	1
10	10	SR74100	LEFT MAST SHROUD	1
11	11	GB70M10*20DHS20NL	Screw M10*20	2
12	12	GB5780M10*65DHS20NL	Screw M10*65	4
13	13	DQ8DS2A	Washer Φ8	4
14	14	NM8DS2	Nut M8	1
15	15	GB70M8*35DS2	Screw M8*35	1
16	17	SR79100	Crash Pad	1
17	18	GB819M4*20DHS2	Cross Recessed Raised Countersunk Head Screws M4*20	4
18	19	GB818M5*15DS2	Cross slotted head screw M5*10	2
19	20	CNLM8*15DS20NL	Screw M8*15	4
20	21	PNLM8*15DS20NL	Screw M8*15	4
21	22	GB845ST4.2*16DHS	Pan Head Tapping Screws With Cross Recessed 4.2*16	5
22	23	GB70M6*10DS2	Screw M6*10	4
23	24	GB70M5*45*45DS20	Screw M5*25	1
24	25	DQ8DHS2B	Washer Φ8	2
25	26	GB70M8*50DHS20	Screw M8*50	1
26	27	NM8DHS2	Nut M8	1
27	28	NBS8DHS	Hex Key S=8	1
28	29	NBS6DHS	Hex Key S=6	1
29	30	NBS5DHS	Hex Key S=5	1
30	31	NBS4DHS	Hex Key S=4	1
31	32	B3305200	Wrench	1

Parts List and Exploded View

Overall



Transporting and Usage



Transporting the Ski-Row

- The Ski-Row can only be moved in the Ski configuration (i.e. Beam Upright and locked).
- If the Ski-Row is in the Row configuration, lift the beam upright until it locks into the Ski position.
- Grasp the main U-shaped support leg and tilt the unit to a comfortable position using a proper lifting techniques.
- Roll the unit into place and lower the unit using a proper technique.

Usage

- Rowing is accessible when beam is unlocked horizontally
- Skiing is accessible when beam is locked vertically.

Maintenance & Service

All Ski-Rows are engineered for years of operation. Regular maintenance and cleaning will lengthen the life and preserve the appearance of the Ski-Row.

Let noise be your first indication that a repair or adjustment is required. Please discontinue use immediately and contact an Authorized Service Technician Dealer if an unusual noise, scraping, knocking, grinding or vibration is detected. Often, a minor issue will become a major repair if ignored and use is continued.

The Ski-Row is manufactured of durable materials; the plastics are molded of strong and chemical-resistant ABS; the frame is produced of high-tensile steel and protected with an industrial-grade, powder paint coating process for the highest level of corrosion resistance; the hardware used for the assembly is corrosion resistant. However, it is important to note that perspiration can be extremely corrosive if allowed to accumulate on the machine.

ATTENTION: PERSPIRATION IS VERY CORROSIVE AND IF ALLOWED TO REMAIN ON THE MACHINE, WILL CAUSE DISCOLORATION, FADING, RUST AND ODORS. UNFORTUNATELY, THESE CONDITIONS ARE NOT COVERED UNDER THE WARRANTY POLICY.

After each workout, wipe down the entire unit, including the console with a mild soap solution followed by a thorough drying with a clean towel. Positioning a small spray bottle and towel near the unit will help ensure that your equipment looks new for many years. Do not use abrasive or coarse brushes or cloths as damage to the surfaces may occur. Do not flood any area with cleaning solution or liquid. Do not use aggressive chemicals or solvents to clean the Ski-Row.

A guideline for service is provided below. If the environment for the Ski-Row is extraordinarily dirty or the usage is extremely heavy, the monthly inspection/service should be performed more often.

Maintenance Recommendations

TASK	DAILY	MONTHLY
Wipe down all surfaces with a mild soap solution and dry thoroughly.	X	
Inspect unit for noisy, damaged or loose components.	X	
Ensure the unit does not rock. If necessary, re-adjust the leveling feet.	X	
Inspect the entire unit for loose hardware, including the beam, support legs, frame and plastic covers.		X
Inspect the row and ski ropes for wear.		X
Clean all dust, lint or debris from all fan openings.		X
Move the Ski-Row and clean/vacuum dust, lint or debris found under the frame.		X

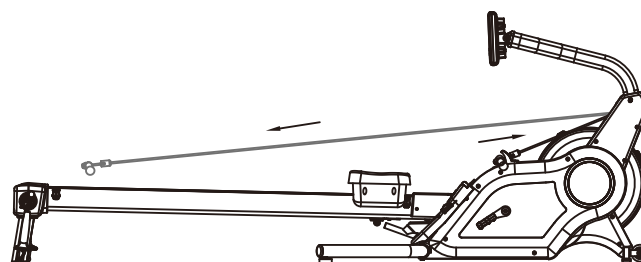
Maintenance & Service

Caution: In order to ensure the life of rowing rope, please be sure to follow the following way of regular maintenance, maintenance cycle is half a year.



STEP 1: Pull out all the rowing ropes.

STEP 2: Make the lubricant out at the rope and puts the rope back in place slowly.



STEP 3: Repeatedly pull out and put back the rope several times to make the lubricant evenly distributed.

Troubleshooting

CONDITION	POTENTIAL CAUSES	SOLUTIONS
Console will not power on.	a. Batteries installed incorrectly.	a. Check battery orientation and correct.
	b. Batteries are dead.	b. Replace the four C alkaline batteries.
Console powers on, but metrics do not post.	a. Speed sensor cable is damaged or disconnected.	a. Check for damage and proper connections.
	b. The speed sensor and magnet are not correctly aligned.	b. Adjust the speed sensor positioning.
No resistance in the Ski Handles	Pulley Link Screw not installed correctly.	Return Pulley assembly to lowest position and install link screw.
Beam loose in the upright position.	Beam lock adjustment screws are too loose.	Adjust Beam Lock Screws to tighten beam position while beam is upright.

Console Panel Functions

1 HARDWARE OVERVIEW

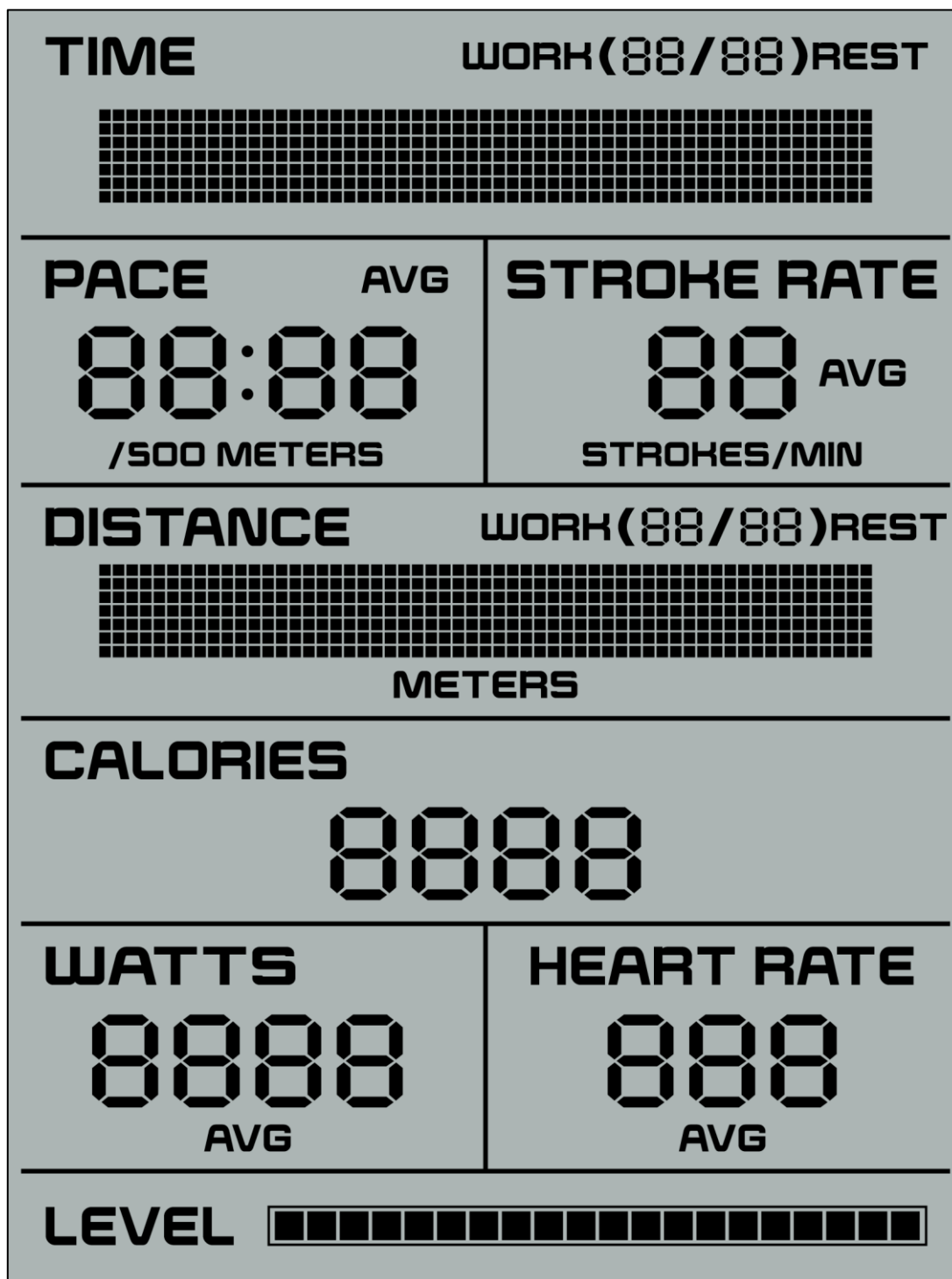
The display shall consist of the following principle elements:

- Main PCB
 - Core microcontroller with internal flash memory which shall be programmable via USB interface and/or over-the-air (OTA) via Bluetooth LE/Smart
 - Bluetooth LE/Smart chipset
 - Interface to be used for HR strap support, possibly for OTA programming of the microcontroller, and possibly for communication with a smartphone APP
 - Four physical key switches
 - Connection for the RPM sensor (i.e. reed switch)
 - Connection for modality sensor (i.e. reed switch); this is used so that the computer can distinguish between the rower and skiing modalities and is tied into the rail position being horizontal or vertical
- Static LCD
 - Defined in section 2.1 below
- Graphic Overlays
 - Defined in section 2.2 below
- ABS Housing
 - Commercial version shall include features to allow for tilting of the display to achieve a better viewing angle for the user; Consumer version will not support this feature

Console Panel Functions

1.1 STATIC LCD

- **LCD Type:** FSTN (Positive Transflective); Ultra High Contrast
- **Viewable Area:** 96mm x 72mm
- **Viewing Angle:** 6 o'clock
- **Backlight:** White



LCD WITH ALL SEGMENTS ILLUMINATED – (200% SCALE)

Console Panel Functions

1.1.1 Font Look

ABCDEFGHIJKLMNOPQRSTUVWXYZ
0123456789!.,%

1.1.2 Display Data Formats

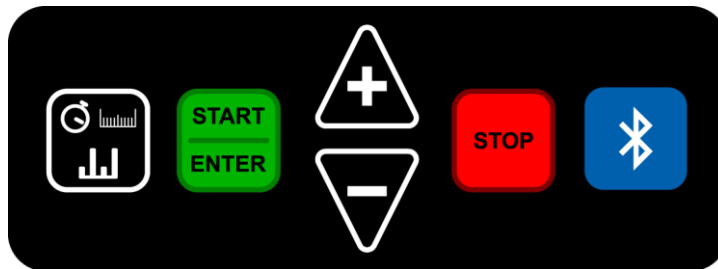
	<u>Resolution</u>	<u>Range</u>	<u>Units</u>
Time	##:##	0:00 – 99:59	Minutes:Seconds
Distance	#####	0.00 – 99999	Meters
Calories	#####.##	0.00 – 9999.99	KCAL
Stroke Rate	###	0 - 255	Strokes/Minute
Average Stroke Rate	###	0 - 255	Strokes/Minute
Pace	##:##	0:00 – 99:59	Minutes:Seconds per 500 Meters
Average Pace	##:##	0:00 – 99:59	Average Minutes:Seconds per 500 Meters
Power	####	0 – 9999	Watts
Average Power	####	0 – 9999	Watts
Heart Rate	###	0 – 255	Beats Per Minute
Average Heart Rate	###	0 – 255	Beats Per Minute

Console Panel Functions

1.2 KEYPAD OVERLAYS

The display shall utilize six (6) physical key switches mounted to the PCB. The display assembly shall consist of a physical structure similar to other Impulse display consoles. The top layer shall consist of a graphical overlay with printed buttons. The next layer shall be the ABS console housing that includes flexible elements that are used to activate the switches when the overlay “button” is pressed.

The proposed keypad graphic overlay is shown below:



Button descriptions are below:

	This is the SELECT WORKOUT button that will provide the user with the ability to select from a list of available workouts.
	This is the START/ENTER BUTTON that provides the user with the ability to begin a workout or accept a selection choice as applicable.
	This is the UP button which allows the user to increment program and settings values. For the commercial Ski-Row this also supports increasing the resistance during the workout.
	This is the DOWN button which allows the user to decrement program and settings values. For the commercial Ski-Row this also supports decreasing the resistance during the workout.
	This is the STOP BUTTON that allows a user to end a workout or exit a setting menu as applicable.
	This is the BLUETOOTH button which is used to connect Bluetooth devices to the console (e.g. Bluetooth wireless heart rate straps for example). When the button is pressed the console will search for available Bluetooth devices and also make itself available for pairing.

Console Panel Functions

2 SYSTEM MODES OVERVIEW

Wake Mode – This is the mode the system enters upon power up or when it awakes from Sleep Mode. All system initializations happen in this mode.

Idle Mode – This is the mode the system enters upon successful power up of the system. At this point the system is waiting for the user to select their desired workout or begin exercising. Refer to section **4 IDLE MODE** below for all relevant details.

Program Setup Mode – This is the mode the system is in after the user has selected a program and needs to enter the required parameters prior to the program actually starting. Refer to section **5 PROGRAM SELECTION AND SETUP** below for all relevant details.

Program Mode – This is the mode the system is in during a given workout. Refer to section **6 PROGRAM MODE (I.E. IN-WORKOUT FUNCTIONALITY)** below for all relevant details.

Pause/Summary Mode – This is the mode the system enters when the user stops exercising (i.e. RPM of flywheel is less than a predetermined value). User data is maintained and displayed in the applicable indicators during this mode waiting for the user to resume or terminate their workout. Refer to section **7 PAUSE/SUMMARY MODE** below for all relevant details.

Configuration Mode – This is the mode the system needs to be in prior to making any configuration changes, perform systems tests, update firmware, or review maintenance or performance metrics. Refer to section **8 CONFIGURATION MODES** below for all relevant details.

Sleep Mode – This is the mode the system enters to conserve power when the console is not in use. In this mode the console LCD shall be blank.

Console Panel Functions

3 IDLE MODE

During the **IDLE MODE** the system is waiting for the user to press either the **START** or **SELECT WORKOUT** buttons. The initial state of the display readouts shall be as follows:



In the area of the graphic above where it shows "PRESS STAR" this shall be replaced with the following sentence that will be scrolled from right to left repeated until a user makes a selection or the system times out due to 30 seconds of inactivity:

PRESS START OR SELECT PROGRAM TO BEGIN

To begin a workout quickly the user can press the **START** button on the keypad. Pressing this button will transition the system to **PROGRAM MODE**. See section **6 PROGRAM MODE (I.E. In-WORKOUT FUNCTIONALITY)** below for more details.

To select a specific workout the user can press the **SELECT WORKOUT** button. Pressing this button shall transition the system to **PROGRAM SETUP MODE**. See section **5 PROGRAM SETUP MODE** below for more details.

In addition to these features, the user shall also be able to enter **CONFIGURATION MODE** if they press the **START**, **UP**, and **STOP** buttons simultaneously. See section **8 CONFIGURATION MODE** below for more details.

Also, if the user does not press any buttons to select or start a workout, then the console shall transition to **SLEEP MODE** with 30 seconds of inactivity.

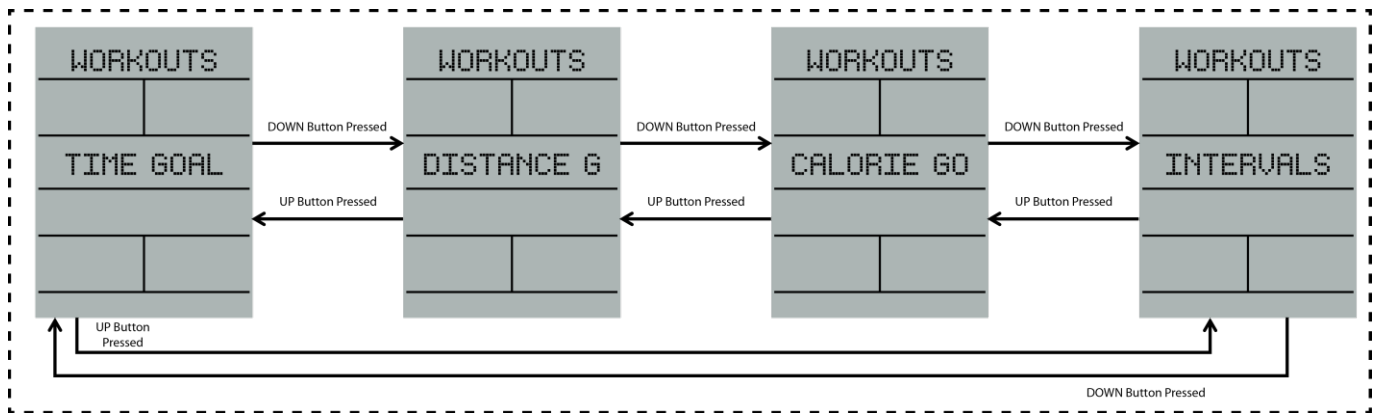
Console Panel Functions

4 PROGRAM SETUP MODE

To enter the **PROGRAM SETUP** mode the user needs to press the **SELECT WORKOUT** button on the IDLE screen.

4.1 WORKOUT SELECTION SCREENS

In this mode the user shall be asked to select the type of program that they would like to do. The graphic below shows the available **WORKOUTS** screens that can be displayed during this mode.



There shall be four workout types that can be selected and they are as follows:

- Time Goal
- Distance Goal
- Calorie Goal
- Intervals

“DISTANCE GOAL” and “CALORIE GOAL” are longer than can be displayed at once on the screen, so each of these prompts shall scroll from right to left and repeat continuously until a new workout choice is made or the displayed workout is chosen (i.e. user pressed ENTER).

The first screen that will be shown is the one for **TIME GOAL**. To select between the available workouts, the user shall press either the **DOWN** or **UP** button to navigate to the next or previous choice respectively.

If the user presses the **ENTER** button they are selecting the displayed workout and the system shall transition to the applicable setup screen.

To exit the **WORKOUTS** screen and return to the **IDLE** screen the user shall press the **STOP** button.

Console Panel Functions

4.2 TIME GOAL SCREEN

The **TIME GOAL** screen is shown below:

The diagram shows a rectangular screen with a light gray background. At the top, the text "ENTER TIME" is displayed in a large, black, pixelated font. Below this text is a horizontal line. Under the line is a rectangular area divided into two equal-width sections by a vertical line. Below this is another horizontal line. In the center of the screen, the time "30:00" is displayed in a large, black, pixelated font. Below the time is a horizontal line. Under this line is another rectangular area divided into two equal-width sections by a vertical line. At the bottom of the screen is a final horizontal line.

On the **TIME GOAL** screen the user shall be able to choose the duration of their workout. The user shall be able to enter a duration from 5 to 99 minutes. The default value shall be 30 minutes. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 1. The **UP** button shall be used to increase the duration and the **DOWN** button shall be used to decrease the duration. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the duration value shall increment by 1 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the value shall increment by 5 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the duration value shall decrement by 1 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the value shall decrement by 5 every 500ms

Once the duration is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the system shall transition to **PROGRAM MODE** and the workout shall begin. See section **6 PROGRAM MODE (I.E. IN-WORKOUT FUNCTIONALITY)** below for more details.

To exit the **TIME GOAL** screen and return to the **WORKOUTS** screen the user shall press the **STOP** button.

Console Panel Functions

4.3 DISTANCE GOAL SCREEN

The **DISTANCE GOAL** screen is shown below:

The diagram shows a rectangular screen interface with a light gray background and black borders. At the top, the text "ENTER DIST" is displayed in a large, pixelated font. Below this, the screen is divided into several horizontal sections. The first section below the title is a wide rectangle. The second section is a wide rectangle containing the number "2500" in a pixelated font. The third section is a wide rectangle. The fourth section is a wide rectangle. The fifth section is a wide rectangle. The sixth section is a wide rectangle. The seventh section is a wide rectangle. The eighth section is a wide rectangle. The ninth section is a wide rectangle. The tenth section is a wide rectangle. The eleventh section is a wide rectangle. The twelfth section is a wide rectangle. The thirteenth section is a wide rectangle. The fourteenth section is a wide rectangle. The fifteenth section is a wide rectangle. The sixteenth section is a wide rectangle. The seventeenth section is a wide rectangle. The eighteenth section is a wide rectangle. The nineteenth section is a wide rectangle. The twentieth section is a wide rectangle. The twenty-first section is a wide rectangle. The twenty-second section is a wide rectangle. The twenty-third section is a wide rectangle. The twenty-fourth section is a wide rectangle. The twenty-fifth section is a wide rectangle. The twenty-sixth section is a wide rectangle. The twenty-seventh section is a wide rectangle. The twenty-eighth section is a wide rectangle. The twenty-ninth section is a wide rectangle. The thirtieth section is a wide rectangle. The thirty-first section is a wide rectangle. The thirty-second section is a wide rectangle. The thirty-third section is a wide rectangle. The thirty-fourth section is a wide rectangle. The thirty-fifth section is a wide rectangle. The thirty-sixth section is a wide rectangle. The thirty-seventh section is a wide rectangle. The thirty-eighth section is a wide rectangle. The thirty-ninth section is a wide rectangle. The fortieth section is a wide rectangle. The forty-first section is a wide rectangle. The forty-second section is a wide rectangle. The forty-third section is a wide rectangle. The forty-fourth section is a wide rectangle. The forty-fifth section is a wide rectangle. The forty-sixth section is a wide rectangle. The forty-seventh section is a wide rectangle. The forty-eighth section is a wide rectangle. The forty-ninth section is a wide rectangle. The fiftieth section is a wide rectangle. The fifty-first section is a wide rectangle. The fifty-second section is a wide rectangle. The fifty-third section is a wide rectangle. The fifty-fourth section is a wide rectangle. The fifty-fifth section is a wide rectangle. The fifty-sixth section is a wide rectangle. The fifty-seventh section is a wide rectangle. The fifty-eighth section is a wide rectangle. The fifty-ninth section is a wide rectangle. The sixtieth section is a wide rectangle. The sixty-first section is a wide rectangle. The sixty-second section is a wide rectangle. The sixty-third section is a wide rectangle. The sixty-fourth section is a wide rectangle. The sixty-fifth section is a wide rectangle. The sixty-sixth section is a wide rectangle. The sixty-seventh section is a wide rectangle. The sixty-eighth section is a wide rectangle. The sixty-ninth section is a wide rectangle. The seventieth section is a wide rectangle. The seventy-first section is a wide rectangle. The seventy-second section is a wide rectangle. The seventy-third section is a wide rectangle. The seventy-fourth section is a wide rectangle. The seventy-fifth section is a wide rectangle. The seventy-sixth section is a wide rectangle. The seventy-seventh section is a wide rectangle. The seventy-eighth section is a wide rectangle. The seventy-ninth section is a wide rectangle. The eightieth section is a wide rectangle. The eighty-first section is a wide rectangle. The eighty-second section is a wide rectangle. The eighty-third section is a wide rectangle. The eighty-fourth section is a wide rectangle. The eighty-fifth section is a wide rectangle. The eighty-sixth section is a wide rectangle. The eighty-seventh section is a wide rectangle. The eighty-eighth section is a wide rectangle. The eighty-ninth section is a wide rectangle. The ninetieth section is a wide rectangle. The ninety-first section is a wide rectangle. The ninety-second section is a wide rectangle. The ninety-third section is a wide rectangle. The ninety-fourth section is a wide rectangle. The ninety-fifth section is a wide rectangle. The ninety-sixth section is a wide rectangle. The ninety-seventh section is a wide rectangle. The ninety-eighth section is a wide rectangle. The ninety-ninth section is a wide rectangle. The hundredth section is a wide rectangle.

On the **DISTANCE GOAL** screen the user shall be able to choose the desired distance for their workout. The user shall be able to enter a length from 100 to 99900 meters. The default value shall be 2500 meters. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 100. The **UP** button shall be used to increase the length and the **DOWN** button shall be used to decrease the length. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the distance value shall increment by 100 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the value shall increment by 500 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the value shall increment by 1000 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the distance value shall decrement by 100 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the value shall decrement by 500 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the value shall decrement by 1000 every 500ms

Once the distance is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the system shall transition to **PROGRAM MODE** and the workout shall begin. See section **6 PROGRAM MODE (I.E. In-WORKOUT FUNCTIONALITY)** below for more details.

To exit the **DISTANCE GOAL** screen and return to the **WORKOUTS** screen the user shall press the **STOP** button.

Console Panel Functions

4.4 CALORIE GOAL SCREEN

The **CALORIE GOAL** screen is shown below:

ENTER CALS	
250	

On the **CALORIE GOAL** screen the user shall be able to choose the desired calorie goal for their workout. The user shall be able to enter a goal from 50 to 1000 calories. The default value shall be 250 calories. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 5. The **UP** button shall be used to increase the length and the **DOWN** button shall be used to decrease the length. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the calorie value shall increment by 5 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the value shall increment by 10 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the value shall increment by 50 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the calorie value shall decrement by 5 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the value shall decrement by 10 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the value shall decrement by 50 every 500ms

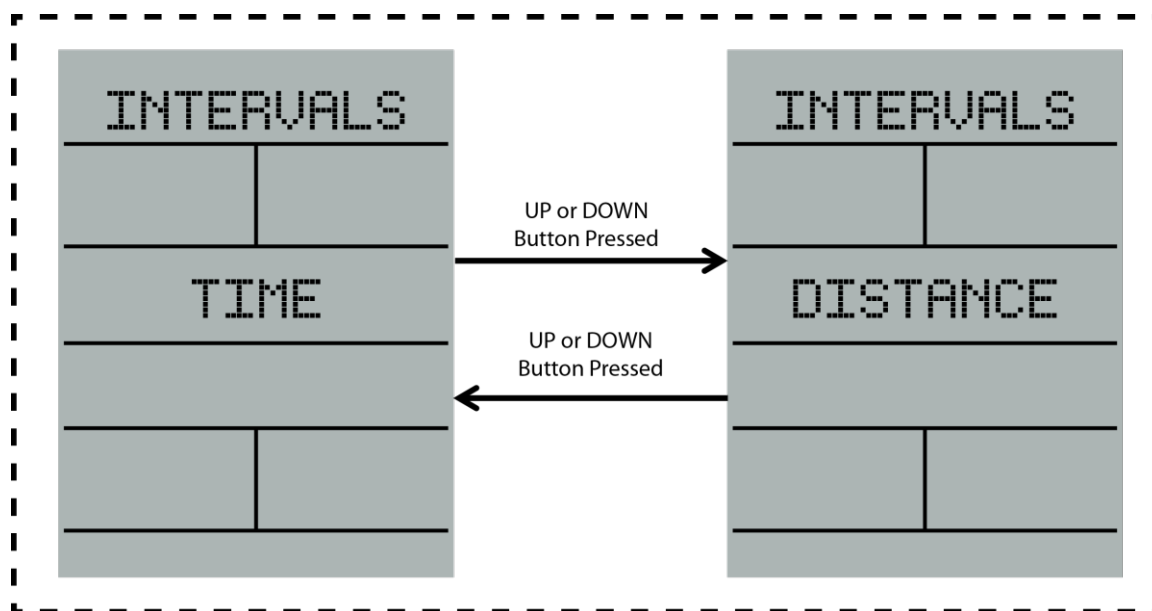
Once the calorie value is set as desired for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the system shall transition to **PROGRAM MODE** and the workout shall begin. See section **6 PROGRAM MODE (I.E. In-WORKOUT FUNCTIONALITY)** below for more details.

To exit the **DISTANCE GOAL** screen and return to the **WORKOUTS** screen the user shall press the **STOP** button.

Console Panel Functions

4.5 INTERVALS SCREEN

The **INTERVALS** screens are shown below:



There shall be two interval types that can be selected and they are as follows:

- Time Intervals
- Distance Intervals

The first screen that will be shown is the one for **TIME INTERVAL GOAL**. To select between the available Interval types, the user shall press either the **DOWN** or **UP** button to navigate to the next or previous choice respectively.

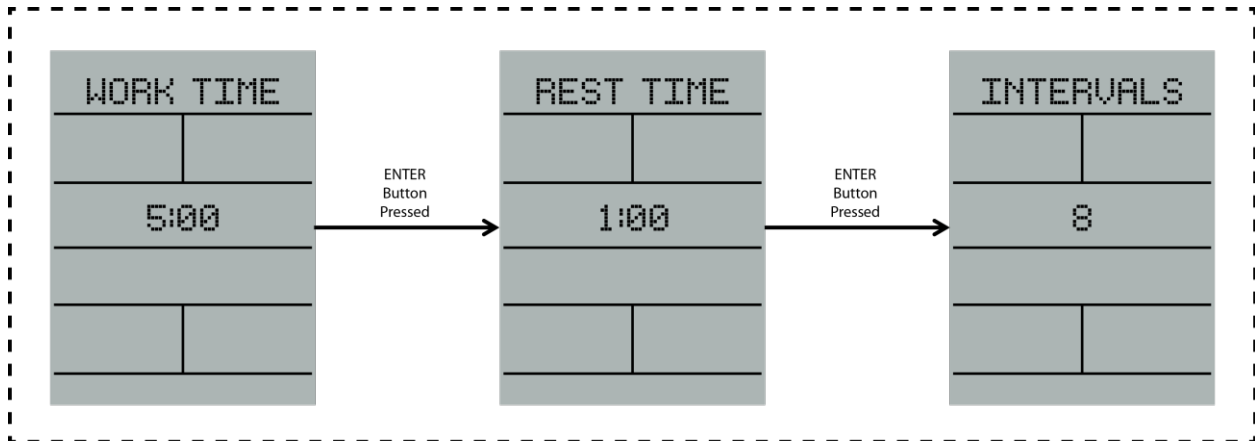
If the user presses the **ENTER** button they are selecting the displayed Interval workout type and the system shall transition to the applicable setup screen.

To exit the **INTERVALS** screen and return to the **WORKOUTS** screen the user shall press the **STOP** button.

Console Panel Functions

4.6 TIME INTERVALS SCREEN

The **TIME INTERVALS** screen is shown below:



An interval consists of a segment of high intensity and segment of low intensity exercise. The high intensity segment is defined by the **WORK TIME**. The low intensity segment is defined by the **REST TIME**. On the **TIME INTERVALS** screens the user shall be able to specify the duration for the work and rest segments and the total number of intervals desired for the given workout. The user shall be able to enter a duration from 1 to 99 minutes for the work segment and the rest segment. The default value for the work segment shall be 5 minutes. The default value for the rest segment shall be 1 minute. The user shall be able to enter between 1 and 99 intervals. The default value for the number of intervals shall be 8.

Upon entering the setup for this program the **WORK TIME** screen shall be the first one displayed. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 1. The **UP** button shall be used to increase the duration and the **DOWN** button shall be used to decrease the duration. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the work time value shall increment by 1 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the work time value shall increment by 5 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the work time value shall decrement by 1 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the work time value shall decrement by 5 every 500ms

Once the **WORK TIME** duration is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the screen shall switch to the **REST TIME** screen.

The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 1. The **UP** button shall be used to increase the duration and the **DOWN** button shall be used to decrease the duration. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the rest time value shall increment by 1 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the rest time value shall increment by 5 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the rest time value shall decrement by 1 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the rest time value shall decrement by 5 every 500ms

Console Panel Functions

Once the **REST TIME** duration is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the screen shall switch to the **NUMBER OF INTERVALS** screen.

The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 1. The **UP** button shall be used to increase the number of intervals and the **DOWN** button shall be used to decrease the number of intervals. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the number of intervals value shall increment by 1 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the number of intervals value shall decrement by 1 every 500ms

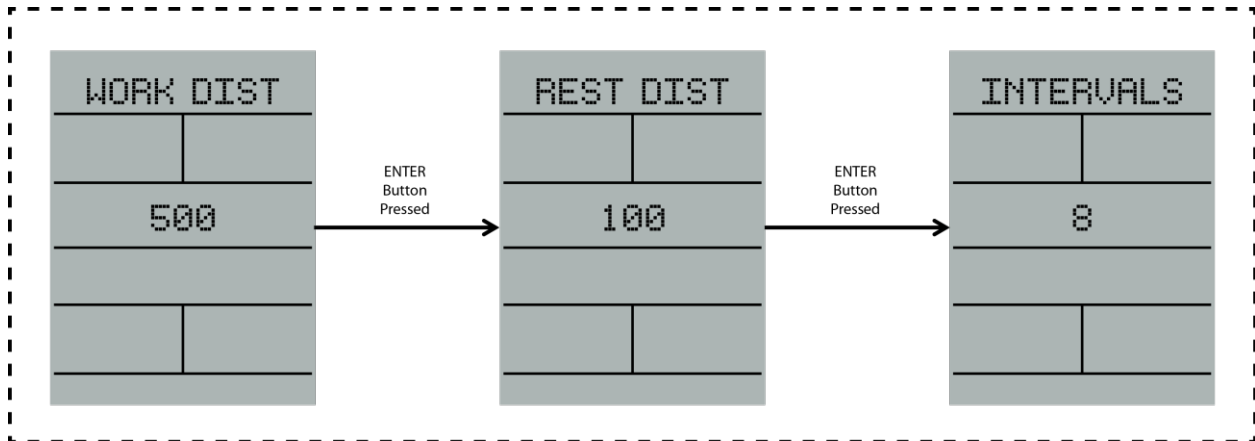
Once the **NUMBER OF INTERVALS** is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the system shall transition to **PROGRAM MODE** and the workout will begin. See section **6 PROGRAM MODE (I.E. In-WORKOUT FUNCTIONALITY)** below for more details.

To exit the **TIME INTERVALS** screens and return to the **INTERVALS** screen the user shall press the **STOP** button.

Console Panel Functions

4.7 DISTANCE INTERVALS SCREEN

The **DISTANCE INTERVALS** screen is shown below:



An interval consists of a segment of high intensity and segment of low intensity exercise. The high intensity segment is defined by the **WORK DISTANCE**. The low intensity segment is defined by the **REST DISTANCE**. On the **DISTANCE INTERVALS** screens the user shall be able to specify the desired distance for the work and rest segments and the total number of intervals desired for the given workout. The user shall be able to enter a distance from 100 to 10000 meters for the work segment and the rest segment. The default value for the work distance shall be 500 meters. The default value for the rest distance shall be 100 meters. The user shall be able to enter between 1 and 99 intervals. The default value for the number of intervals shall be 8.

Upon entering the setup for this program the **WORK DISTANCE** screen shall be the first one displayed. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 100. The **UP** button shall be used to increase the distance and the **DOWN** button shall be used to decrease the distance. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the work distance value shall increment by 100 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the work distance value shall increment by 500 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the work distance value shall decrement by 100 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the work distance value shall decrement by 500 every 500ms

Once the **WORK DISTANCE** is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the screen shall switch to the **REST DISTANCE** screen.

The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 100. The **UP** button shall be used to increase the distance and the **DOWN** button shall be used to decrease the distance. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the rest distance value shall increment by 1 every 500ms
- If the **UP** button continues to be held for 5 more seconds then the rest distance value shall increment by 5 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the rest distance value shall decrement by 1 every 500ms
- If the **DOWN** button continues to be held for 5 more seconds then the rest distance value shall decrement by 5 every 500ms

Console Panel Functions

Once the **REST DISTANCE** is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the screen shall switch to the **NUMBER OF INTERVALS** screen.

The selection arrow signifies that the **NUMBER OF INTERVALS** value is editable. The user can adjust the value up or down by using the **UP** and **DOWN** buttons respectively. Each press of either the **UP** or **DOWN** button shall change the current displayed value by 1. The **UP** button shall be used to increase the number of intervals and the **DOWN** button shall be used to decrease the number of intervals. Additional behaviors for the **UP** and **DOWN** buttons are as follows:

- If the **UP** button is held for more than 2 seconds then the number of intervals value shall increment by 1 every 500ms
- If the **DOWN** button is held for more than 2 seconds then the number of intervals value shall decrement by 1 every 500ms

Once the **NUMBER OF INTERVALS** is set to the desired value for the given workout the **ENTER** button shall be pressed. Upon pressing the **ENTER** button the system shall transition to **PROGRAM MODE** and the workout will begin. See section **6 PROGRAM MODE (I.E. In-WORKOUT FUNCTIONALITY)** below for more details.

To exit the **DISTANCE INTERVALS** screens and return to the **INTERVALS** screen the user shall press the **STOP** button.

Console Panel Functions

5 PROGRAM MODE (I.E. IN-WORKOUT FUNCTIONALITY)

Upon transitioning to this mode time shall begin incrementing, distance shall begin accumulating, calories shall begin accumulating, and all other displays shall become active. The specifics of the workout views are described below.

5.1 STANDARD WORKOUT SCREENS

For quick workouts that are initiated by hitting the **QUICK START** button from the **IDLE SCREEN** or workouts that are initiated by selecting a **TIME GOAL**, **DISTANCE GOAL**, or **CALORIE GOAL** the following screens shall be provided during the workout.



The screen above is the initial screen that is displayed upon beginning a workout. The following fields are present:

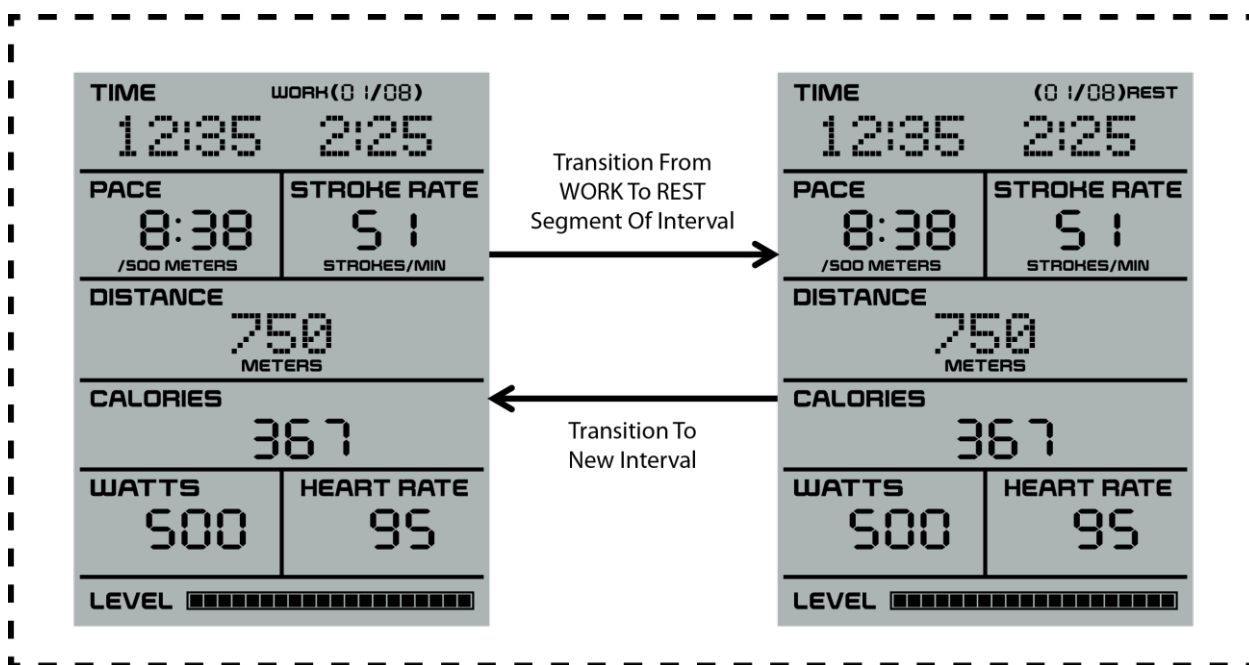
- **Time** – The elapsed time for the workout in MM:SS format
- **Pace** – The amount of time, in MM:SS format, it will take to row/ski 500 meters based on the current stroke rate
- **Stroke Rate** – The rate, in strokes per minute, the user is rowing or skiing
- **Distance** – The distance, in meters, the user has “traveled” in the given workout
- **Calories** – The amount of calories the user has burned through the workout
- **Watts** – The amount of work the user is currently performing in the workout
- **Heart Rate** – The user’s current heart rate as measured from their wireless HR strap
- **Level** – The current resistance level from 1 to 20 displayed as a horizontal bar graph that fills from left to right; the level correlates to the position of the magnets relative to the flywheel

The calculations for all data displayed during the workout can be found in section **9 FORMULAS** for later in this document.

Console Panel Functions

5.2 TIME INTERVAL WORKOUT SCREENS

For TIME INTERVAL workouts the following initial screen shall be provided during the workout.



The following fields are present:

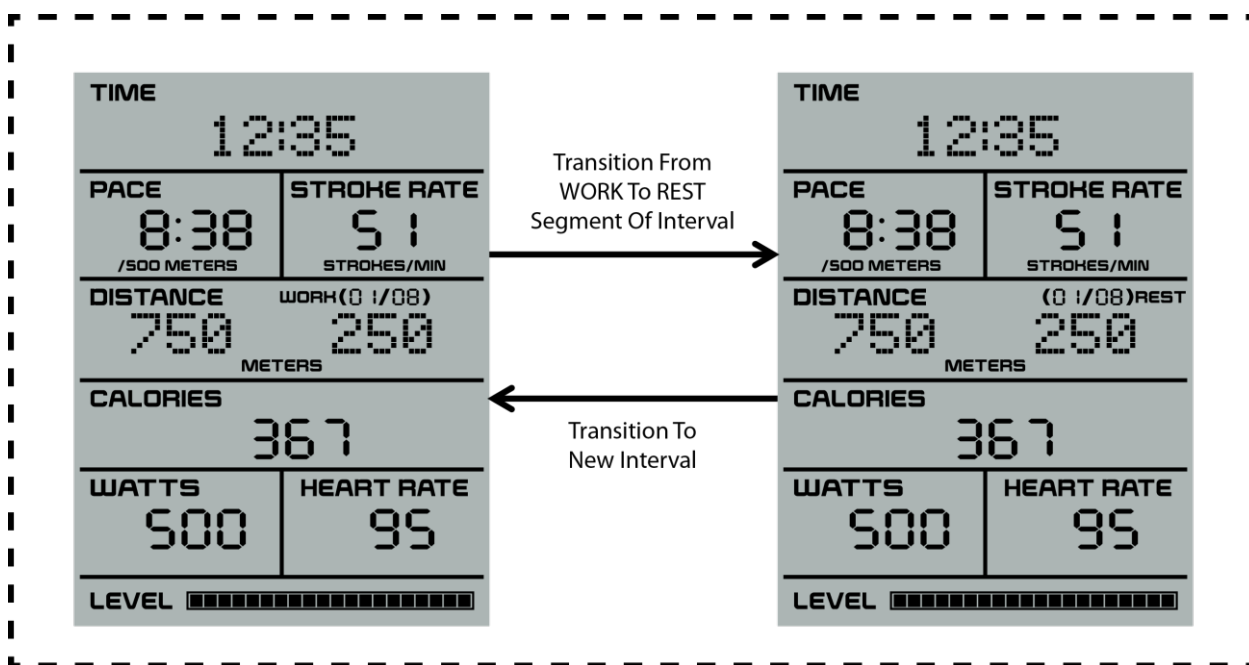
- **Time** – The elapsed time for the workout in MM:SS format
- **Work (X / Y)** – The time remaining in the current WORK segment displayed in MM:SS format; the initial value for WORK was established during program setup; the X denotes the current segment number while the Y denotes the total number of segments that will be run in the current workout and was defined in program setup; the example above on the left shows “WORK (01 / 08)” signifying that the first segment is in process and there are 8 total segments in the workout; the WORK segment would be followed by the REST segment (screen shown on right above)
- **Rest (X / Y)** – The time remaining in the current REST segment displayed in MM:SS format; the initial value for REST was established during program setup; the X denotes the current segment number while the Y denotes the total number of segments that will be run in the current workout and was defined in program setup; the REST segment follows the WORK segment; the X shall increment to the next segment once the current REST segment has been completed
- **Pace** – The amount of time, in MM:SS format, it will take to row/ski 500 meters based on the current stroke rate
- **Stroke Rate** – The rate, in strokes per minute, the user is rowing or skiing
- **Distance** – The distance, in meters, the user has “traveled” in the given workout
- **Calories** – The amount of calories the user has burned through the workout
- **Watts** – The amount of work the user is currently performing in the workout
- **Heart Rate** – The user’s current heart rate as measured from their wireless HR strap
- **Level** – The current resistance level from 1 to 20 displayed as a horizontal bar graph that fills from left to right; the level correlates to the position of the magnets relative to the flywheel

The calculations for all data displayed during the workout can be found in section **9 FORMULAS** for later in this document.

Console Panel Functions

5.3 DISTANCE INTERVAL WORKOUT SCREENS

For DISTANCE INTERVAL workouts the following initial screen shall be provided during the workout.



The following fields are present:

- **Time** – The elapsed time for the workout in MM:SS format
- **Pace** – The amount of time, in MM:SS format, it will take to row/ski 500 meters based on the current stroke rate
- **Stroke Rate** – The rate, in strokes per minute, the user is rowing or skiing
- **Distance** – The distance, in meters, the user has “traveled” in the given workout
- **Work (X / Y)** – The distance remaining in the current WORK segment displayed in meters; the initial value for WORK was established during program setup; the X denotes the current segment number while the Y denotes the total number of segments that will be run in the current workout and was defined in program setup; the example above on the left shows “WORK (01 / 08)” signifying that the first segment is in process and there are 8 total segments in the workout; the WORK segment shall be followed by the REST segment (screen shown on right above)
- **Rest (X / Y)** – The distance remaining in the current REST segment displayed in meters; the initial value for REST was established during program setup; the X denotes the current segment number while the Y denotes the total number of segments that will be run in the current workout and was defined in program setup; the REST segment follows the WORK segment; the X shall increment to the next segment once the current REST segment has been completed
- **Calories** – The amount of calories the user has burned through the workout
- **Watts** – The amount of work the user is currently performing in the workout
- **Heart Rate** – The user’s current heart rate as measured from their wireless HR strap
- **Level** – The current resistance level from 1 to 20 displayed as a horizontal bar graph that fills from left to right; the level correlates to the position of the magnets relative to the flywheel

The calculations for all data displayed during the workout can be found in section **9 FORMULAS** for later in this document.

Console Panel Functions

6 PAUSE/SUMMARY MODE

6.1 USER STOPS EXERCISING

If the user stops exercising (i.e. the RPM has been less than 25 RPM for 5 or more seconds) during a workout the system shall transition to **PAUSE/SUMMARY MODE**, the elapsed time shall stop incrementing, the distance and calories shall stop accumulating and the system shall start displaying the average values for pace, stroke/rate, watts, and heart rate as shown in the screen image below. Once this mode has been initiated a 30 second countdown timer shall be started and once it elapses, the system shall transition back to **IDLE MODE**. See section 4 **IDLE MODE** above for the desired behavior during **IDLE MODE**.

If the user resumes exercising before the timer has elapsed then the system shall transition back to **PROGRAM MODE** and continue the workout from where the user left off. It is assumed that an acceleration of the flywheel (i.e. increase in RPM) is the user resuming their workout. A user may also resume their workout by pressing the **START** button.

To end this mode before the timer elapses the user shall press the **STOP** button to immediately transition to **IDLE MODE**.

6.2 USER PRESSES STOP BUTTON WHILE IN WORKOUT

If the user presses the **STOP** button while exercising the system shall immediately transition to **PAUSE/SUMMARY MODE**, the elapsed time shall stop incrementing, the distance and calories shall stop accumulating and the system shall start displaying the average values for pace, stroke/rate, watts, and heart rate as shown in the screen image below. Once this mode has been initiated a 30 second countdown timer shall be started and once it elapses, the system shall transition back to **IDLE MODE**. See section 4 **IDLE MODE** above for the desired behavior during **IDLE MODE**.

If the user resumes exercising before the timer has elapsed then the system shall transition back to **PROGRAM MODE** and continue the workout from where the user left off. It is assumed that an acceleration of the flywheel (i.e. increase in RPM) is the user resuming their workout. A user may also resume their workout by pressing the **START** button.

To end this mode before the timer elapses the user shall press the **STOP** button to immediately transition to **IDLE MODE**.

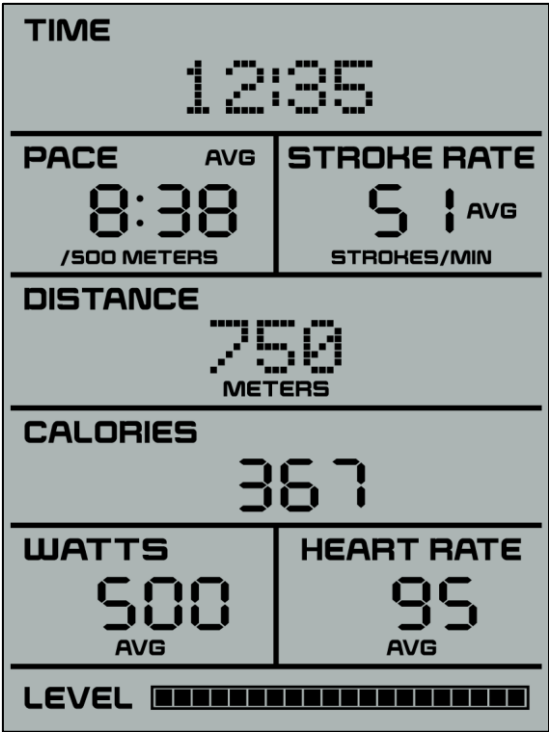
6.3 WORKOUT GOAL IS REACHED

If the user reaches their chosen workout goal then the system shall also transition to **PAUSE/SUMMARY MODE**, the elapsed time shall stop incrementing, the distance and calories shall stop accumulating and the system shall start displaying the average values for pace, stroke/rate, power, and heart rate as shown in the screens images below. Once this mode has been initiated a 30 second countdown timer shall be started and once it elapses, the system shall transition back to **IDLE MODE**. See section 4 **IDLE MODE** above for the desired behavior during **IDLE MODE**.

To end this mode before the timer elapses the user shall press the **STOP** button to immediately transition to **IDLE MODE**.

Console Panel Functions

6.4 PAUSE MODE SCREEN



The screen above shall be shown during **PAUSE/SUMMARY MODE**.

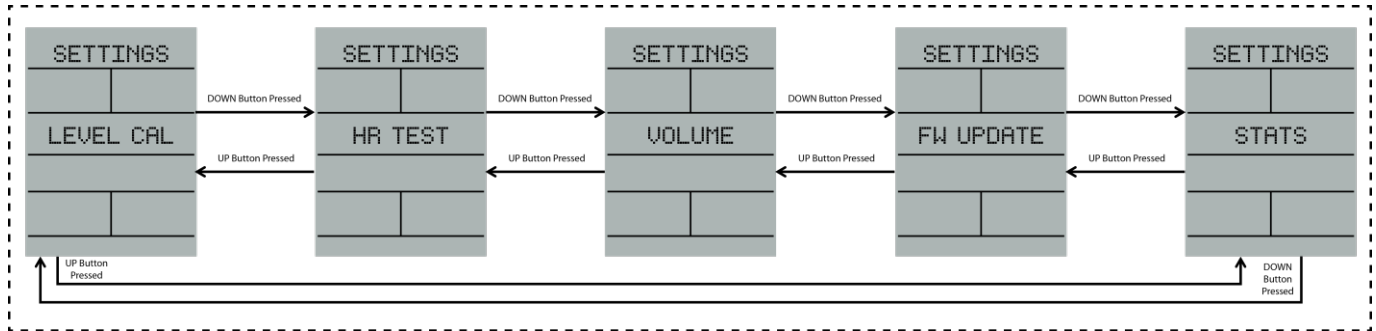
Console Panel Functions

7 CONFIGURATION MODES

7.1 SETTINGS SCREENS

To enter **CONFIGURATION MODE** the user shall press **START**, **UP**, and **STOP** simultaneously.

The graphic below shows the **SETTINGS** screens:



There shall be five options provided to the user on these screens and they are as follows:

- **LEVEL CAL** – This selection gives the user the ability to calibrate the potentiometer setting relative to the position of the magnets for the Consumer Models and would be used to adjust the motors position on the Commercial Models
- **HR TEST** – This selection gives the user the ability to test the HR system
- **VOLUME** – This selection gives the user the ability to adjust the volume of the beeper
- **FW UPDATE** – This selection gives the user the ability to perform firmware updates for the console firmware
- **STATS** – This selection gives the user the ability review the total accumulated time, total accumulated distance, and firmware version

The first screen that will be shown is the one for **LEVEL CAL**. To select between the available Settings, the user shall press either the **DOWN** or **UP** button to navigate to the next or previous choice respectively.

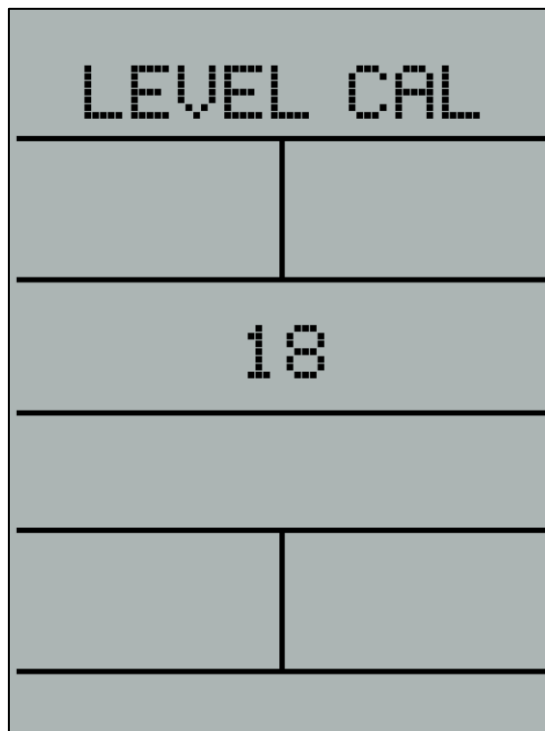
If the user presses the **ENTER** button they are selecting the displayed Setting and the system shall transition to the applicable Setting screen.

To exit the **SETTINGS** screens and return to the **IDLE** screen the user shall press the **STOP** button.

Console Panel Functions

7.2 LEVEL CALIBRATION SCREENS

The graphics below show two versions of the **LEVEL CAL** screen:



LEVEL CALIBRATION – CONSUMER

To calibrate the resistance feedback on the Consumer version of the Ski-Row and Tee-Row, the resistance slider shall need to be set to the minimum resistance position. The value displayed on the screen shall represent the A/D count value relative to the setting of the potentiometer that is located on the magnet adjustment mechanism. If the displayed value is between **10** and **15** counts then the system is in calibration. If the value is below **10** or greater than **15** then the potentiometer shall need to be adjusted until the value is in range. Once the value is in range the user shall press the **ENTER** button to save it to memory.

***NOTE: The highlighted count values above shall need to be revisited once the resistance mechanism and feedback system implementation has been completed.**

LEVEL CALIBRATION – COMMERCIAL

To calibrate the level on the Commercial version of the Ski-Row and Tee-Row, the motor position needs to be adjusted such that the Level 1 position has a count value between **10** and **15**. It is assumed that the mechanical travel of the magnet mechanism shall be as close as possible to that of the Consumer model so that the magnetic resistance effects are essentially identical between the two (2) versions. The movement of the motor during calibration is performed using the **UP** and **DOWN** buttons. The **UP** button shall move the magnets closer to the flywheel and the **DOWN** button shall move the magnets farther away from the flywheel. When the reported count value from the motor is in range then the user shall press the **ENTER** button to save it to memory.

***NOTE: The highlighted count values above shall need to be revisited once the resistance mechanism and feedback system implementation has been completed.**

LEVEL CALIBRATION – COMMON FOR BOTH

Given the path of the magnets is predetermined as a result of the mechanical design of the magnet pivot assembly we shall only need to calibrate the starting point (i.e. Level 1). The effects of the different magnet positions shall be empirically derived using the Ski-Row/Tee-Row prototype so that an accurate **WATTS** table can be created that properly reports power during use. This process shall also allow for the ability to determine the valid counts values to use for reporting the current resistance level to the user.

Console Panel Functions

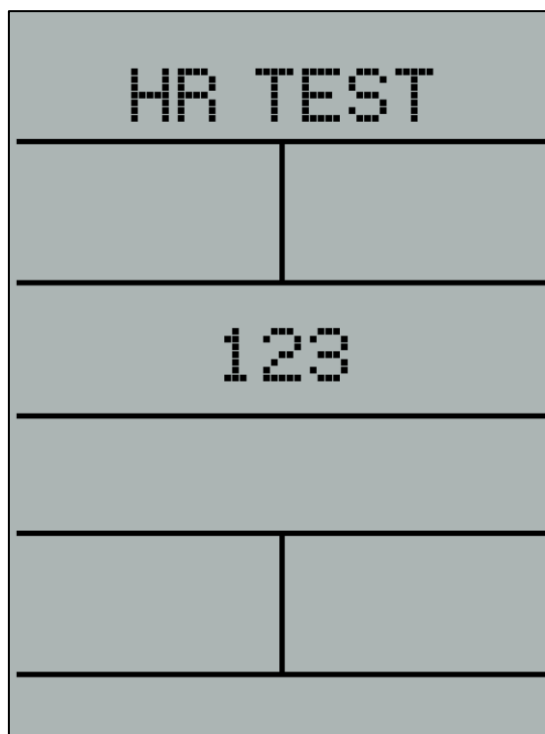
After the user presses the “Set Value” button to save value to memory, the system shall also transition back to the **UTILITIES** screen. To exit the **LEVEL CALIBRATION** screen without saving the value and return to the **UTILITIES** screen the user shall press the **STOP** button.

NOTE: The count values used above are placeholders and the final values will need to be empirically derived on an actual unit during the development phase.

Console Panel Functions

7.3 HR TEST SCREEN

The graphic below shows the **HR TEST** screen:



The HR Test shall allow the user to verify the functionality of their heart rate strap.

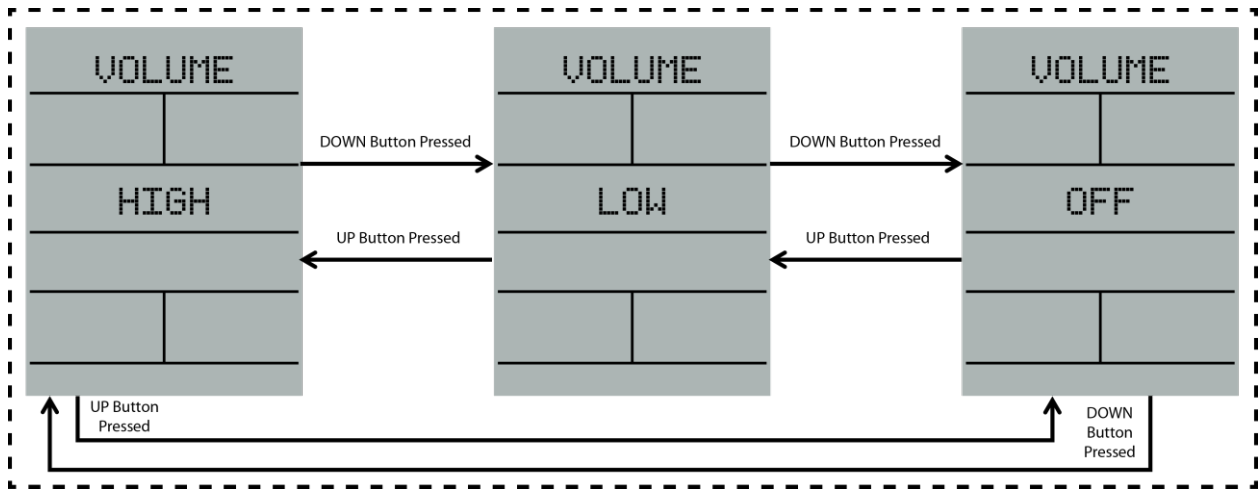
The system shall support Bluetooth Smart compatible HR straps. When on this screen the user shall be able to connect their HR strap to the console by pressing the **CONNECT** button. Hitting this button shall run the software routine necessary to establish a Bluetooth Smart connection between the user HR strap and the console. Once connected the user's current heart rate shall be displayed on the screen. If the console is unable to detect a Bluetooth Smart compatible HR strap within 10 seconds of the user pressing the **CONNECT** button then the display shall display "00000" in place of the numbers shown in the screen above and blink them 5 times.

To exit the **HR TEST** screen and return to the **SETTINGS** screens the user shall press the **STOP** button.

Console Panel Functions

7.4 VOLUME SCREEN

The graphic below shows the **VOLUME** screens:



The console shall be equipped with a piezo style beeper that shall be used to generate tones for button presses and various system related events. The volume of this beeper shall be adjustable in order to allow users to control how loud or quiet they desire the tones to be.

The **UP** and **DOWN** buttons shall be used to adjust the volume level. There shall be three choices to pick from and they are below:

- High (i.e. full volume)
- Low (i.e. half volume)
- Off (i.e. Muted; no sound)

Also, each time the **UP** or **DOWN** buttons are pressed the volume of the tone played shall match the current set level. Once the user is satisfied with the volume level they can save that level to memory by pressing the **ENTER** button. Pressing the **ENTER** button saves the setting value to memory and transitions the system back to the **SETTINGS** screens.

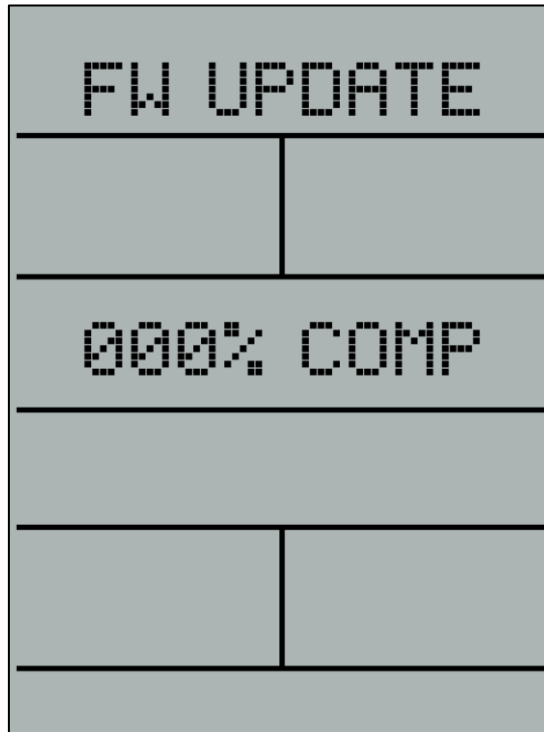
The default volume level shall be **HIGH**.

To exit the **VOLUME** screens and revert the volume to the last saved value the user shall press the **STOP** button.

Console Panel Functions

7.5 UPDATE FIRMWARE SCREEN

The graphic below shows the **FW UPDATE** screen:



The console shall provide a means for updating its firmware. At a minimum, the console shall be flash-able via a USB port on the console. The user shall be able to copy a new firmware file to a USB stick and that USB memory stick can then be inserted into the console's provided USB port. Once the USB memory stick is installed in the USB port the user shall be able to go to the **FW UPDATE** screen above. The user can then press the **ENTER** button to initiate the program upload. During the upload process the user shall be presented with a message indicating status. The possible messages are as follows:

- **IDLE** – Shown when there is no USB installed in the console's USB port
- **NO FILE** – Shown when a USB stick is installed in the console's USB port but there is no firmware file found
- **READY** – Shown when the USB stick is inserted and a new firmware file is present on the device
- **XXX% COMP** – This message shall be shown during the upload
- **COMPLETE** – This message shall be shown after a successful upload of the file
- **FAILED** – This message shall be shown if an error occurs during the upload process

NOTE: *Pressing the ENTER button will only have an effect when the console is in the READY state defined above.*

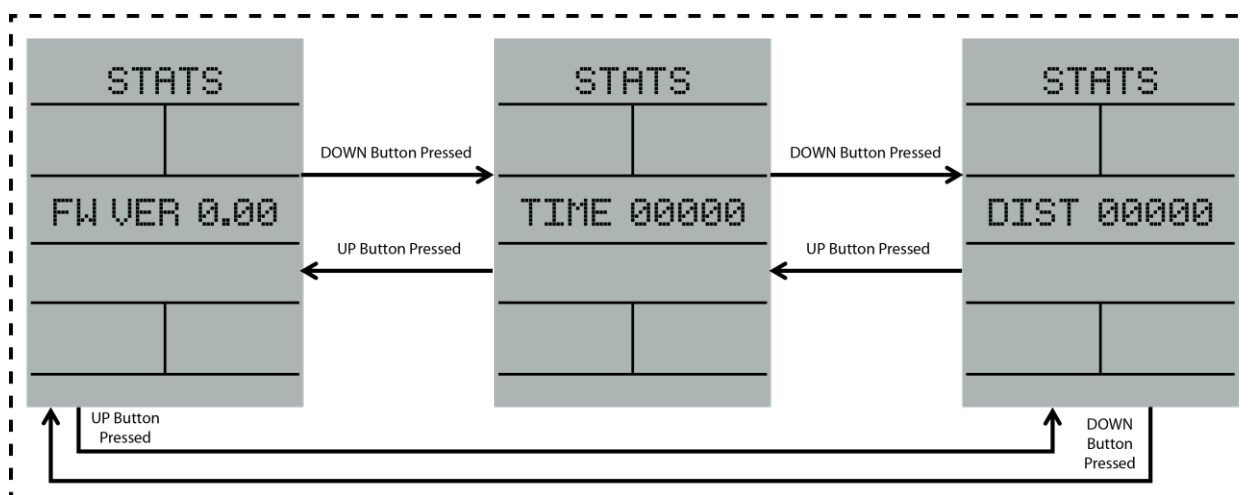
The **STOP** button shall behave differently depending on the state the upload process is in. Below is a list of behaviors for the **STOP** button:

- When either the **IDLE**, **READY**, or **COMPLETE** message is being displayed, if the user presses the **STOP** button then the system shall exit this state and transition to the **SETTINGS** screens
- When the **XXX% COMP** message is being displayed then the **STOP** button shall be deactivated (i.e. system shall not do anything when STOP is pressed)
- When the **FAILED** message is being displayed, if the user presses the **STOP** button the system will ignore the partially uploaded file, transition to the **SETTINGS** screen, and continue running the existing firmware

Console Panel Functions

7.6 STATISTICS SCREEN

The graphic below shows the **STATS** screens:



There shall be three different statistics provided to the user on these screens and they are as follows:

- **Firmware Version** – This is the current firmware version for the firmware currently running on the console
- **Total Time** – This is the total amount of time, in minutes, of all workouts performed on this given machine
- **Total Distance** – This is the total distance, in kilometers, of all workouts performed on this given machine

To exit any of the **STATS** screens and return to the **SETTINGS** screens the user shall press the **STOP** button.

