



HENDO SPRING BALANCERS

INSTRUCTION MANUAL



HSB - 2



HSB - 3 / 5 / 7



HSB - 9 / 15



HSB - 22 / 30



HSB - 45 / 75



HSB - 90 / 110



HSB - 140 / 220

TECHNICAL SPECIFICATIONS :

Model No	Capacity (kgs)	Cable travel (mtrs.)	Diameter of cable (@ mm)	Mass (kgs)
HSB- 2	0.5 - 2.0	1.0	3.0	1.0
HSB- 3	1.0 - 3.0	1.3	3.0	1.4
HSB- 5	2.5 - 5.0	1.3	3.0	1.5
HSB- 7	4.0 - 7.0	1.3	3.0	1.6
HSB- 9	4.5 - 9.0	1.3	4.0	3.4
HSB- 15	9.0 - 15.0	1.3	4.0	3.8
HSB- 22	15.0 - 22.0	1.5	5.0	8.0
HSB- 30	22.0 - 30.0	1.5	5.0	8.0
HSB- 45	30.0 - 45.0	1.5	5.0	11.0
HSB- 60	45.0 - 60.0	1.5	5.0	12.0
HSB- 75	60.0 - 75.0	1.5	5.0	12.0
HSB- 90	70.0 - 90.0	1.5	8.0	23.0
HSB- 110	90.0 - 110.0	1.5	8.0	26.0
HSB- 140	110.0 - 140.0	1.5	8.0	27.0
HSB- 170	140.0 - 170.0	1.5	8.0	29.0
HSB- 200	170.0 - 200.0	1.5	8.0	30.0
HSB- 220	200.0 - 220.0	1.5	8.0	33.0

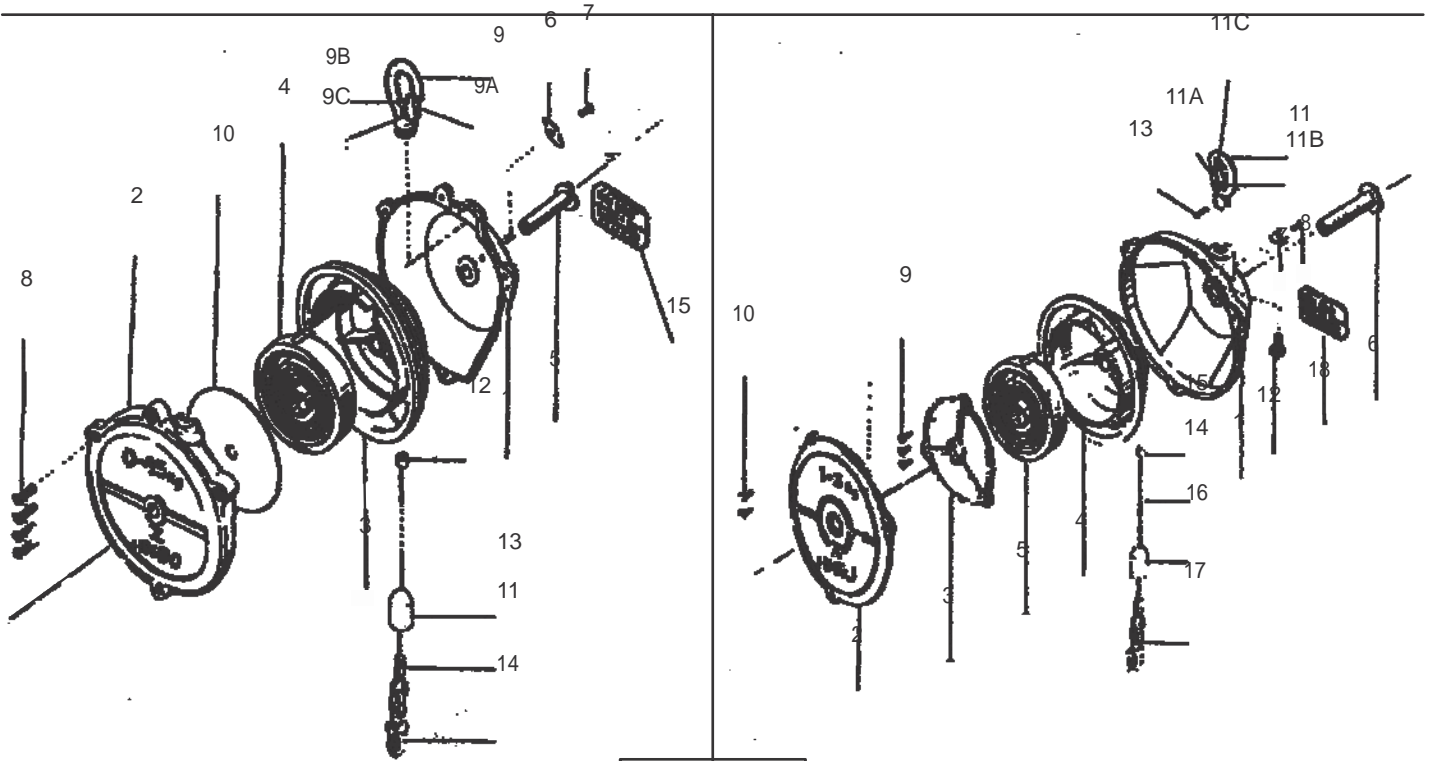
HENDO SPRING BALANCER

SPARE PARTS LIST

MODEL HSB-2

MODEL HSB-3/5

EXPLODED VIEW



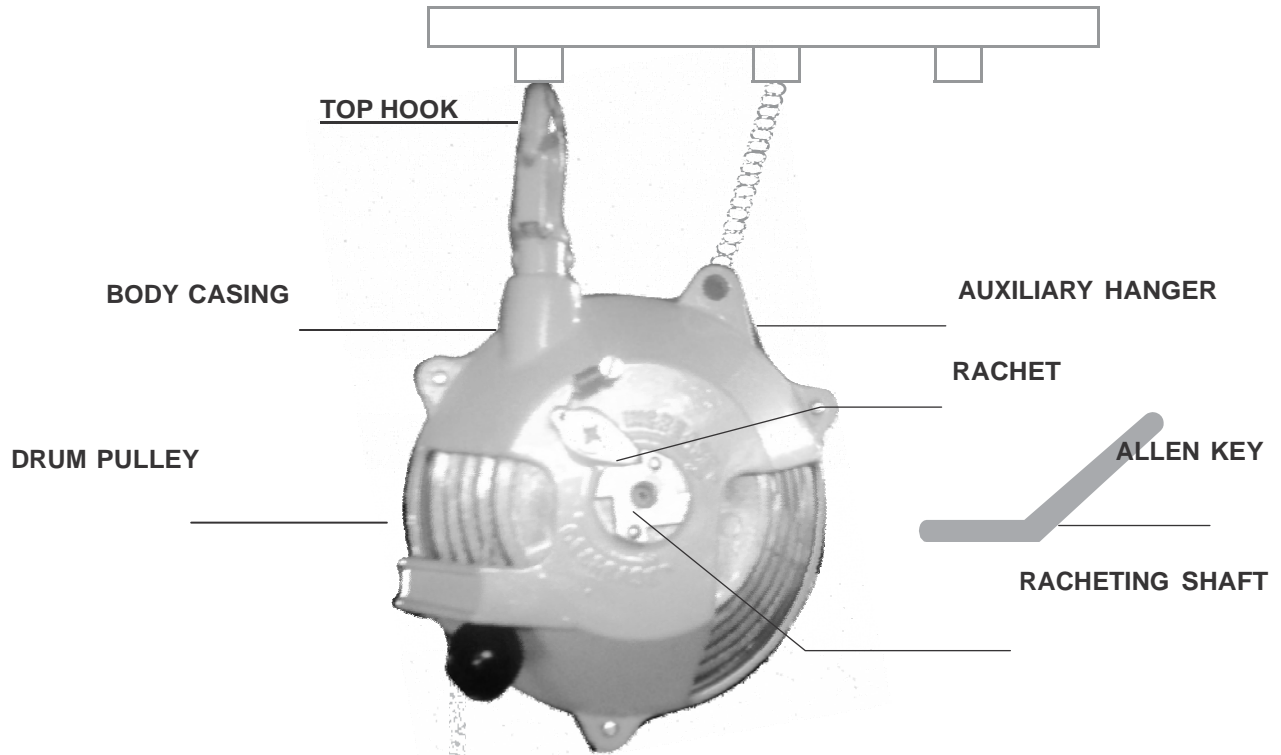
PARTS LIST

When ordering spare parts please specify index number and part name.

Model	HSB-2	
Index No.	Part Name	Material
1	Casing	Aluminium Alloy Casting
2	Cover	Aluminium Alloy Casting
3	Drum	Aluminium Alloy Casting
4	Spiral Spring	Carbon Tool Steel
5	Sprindles	Cold Finished Steel Bar
6	Ratchet	Cold Rolled Carbon Steel Sheet
7	Screw (M5 x 12)	
8	Screw (M5 x 18)	
9	Upper Hook	Rolled Steel for General Structure
9A	Safety Plate	Cold Rolled Carbon Steel Sheet
9B	Spring	Hara Drawn Steel Wire
9C	Rivet (3 x 11)	
10	Spring Cover	Cold Rolled Carbon Steel Sheet
11	Wire Rope (3 x 1180)	
12	Wire Stopper	Aluminium Alloy Road Bar
13	Buffer	Nitrile Butadiene Rubber
14	Lower Hook	Cold Rolled Carbon Steel Sheet
15	Name Plate	Aluminium Alloy Plate

Model	HSB-3/5	
Index No.	Part Name	Material
1	Casing	Aluminium Alloy Casting
2	Cover	Aluminium Alloy Casting
3	Drum Cover	Aluminium Alloy Casting
4	Drum	Aluminium Alloy Casting
5	Spiral Spring	Carbon Tool Steel
6	Sprindles	Cold Finished Steel Bar
7	Ratchet	Cold Rolled Carbon Steel Sheet
8	Screw (M6 x 12)	
9	Screw (M5 x 10)	
10	Screw (M5 x 20)	
11	Upper Hook	Rolled Steel for General Structure
11A	Safety Plate	Cold Rolled Carbon Steel Sheet
11B	Spring	Hara Drawn Steel Wire
11C	Rivet (3 x 11)	
12	Hook Shaft	Cold Finished Steel Bar
13	Rivet (3 x 17.5)	
14	Wire Rope (3 x 1500)	
15	Wire Stopper	Aluminium Alloy Road Bar
16	Buffer	Nitrile Butadiene Rubber
17	Lower Hook	Cold Rolled Carbon Steel Sheet
18	Name Plate	Aluminium Alloy Plate

Important Operating Instructions of Spring Balancers Model HSB - 2, HSB - 3 & HSB - 5

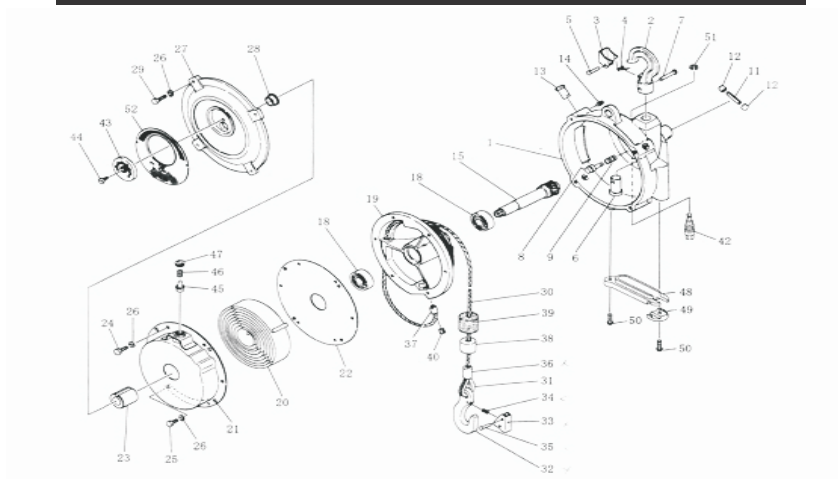


HENDO SPRING BALANCERS ARE DESIGNED SUCH THAT AFTER TESTING IT IS SET TO CARRY AND BALANCE THE MAXIMUM SPECIFIED WEIGHT OF TOOLS (MAXIMUM SPECIFIED WEIGHT INCLUDES WEIGHT OF TOOLS AND ACCESSORIES LIKE HOSE PIPE ETC). ON SUSPENDING HENDO SPRING BALANCER ONTO OVER HEAD RAIL, AND THE TOOL FIXED TO THE BOTTOM HOOK, THE TOOL WILL MOVE DOWNWARDS, THIS SIGNIFIES THE UNBALANCE OF THE TOOL.

TO BALANCE THE WEIGHT OF THE TOOL :-

1. INSERT PROVIDED ALLEN KEY INTO HEXAGONAL SLOT OF THE SPRING BALANCER RATCHETING SHAFT AS SHOWN ABOVE.
2. ROTATE ALLEN KEY IN CLOCKWISE DIRECTION TAKING CARE THAT RATCHET SHOULD BE FIXED TO ITS ORIGINAL POSITION. IF RATCHET IS NOT PLACED INTO THE SLOT. THE RATCHETING SHAFT WILL ROTATE IN ANTICLOCKWISE DIRECTION AGAINST THE SPRING TENSION EARLIER PROVIDED CAUSING RECOIL OF SPRING AND LOAD FALLING DOWN.
3. BY ROTATING ALLEN KEY IN CLOCKWISE DIRECTION, THE SPRING TENSIONS ITSELF TO BALANCE THE LOAD FIXED ONTO THE BOTTOM HOOK.
4. ON SUBSEQUENT BALANCING ONLY SLIGHT EFFORT IS REQUIRED TO BRING DOWN THE TOOL TO ITS POSITION OF WORK.
5. THE TOP HOOK ARRANGEMENT FACILITATES 360° ROTATION OF THE SPRING BALANCER.
6. FOR SECONDARY SAFETY ARRANGEMENT, THE PROVIDED AUXILLIARY HOOK SHOULD BE FIXED TO A SAFETY WIREROPE / CHAIN ALLOWING ENOUGH SLACKNESS TO THE WIREROPE / CHAIN FOR EASY ROTATION (REFER SKETCH AS SHOWN ABOVE).
7. MONTHLY INSPECTION SHOULD BE CARRIED OUT FOR HOOKS. WIREROPE WEAR OUT.
8. IF SPRING TENSION DECLINES AFTER A LONG PERIOD OF USE, ROTATE RACHETING SHAFT IN CLOCKWISE DIRECTION TO INCREASE SPRING TENSION.
9. SPRING BALANCERS SHOULD BE SERVICED & MAINTAINED ONCE IN EVERY SIX MONTHS.
10. TO GET THE BEST OUT OF HENDO SPRING BALANCERS IT IS ADVISABLE TO SUSPEND THE BALANCER ONTO A TROLLEY WHICH SLIDES ON THE OVER HEAD RAIL. ALLOWING THE TOOL TRAVEL TO REMAIN PERPENDICULAR TO THE WORKING AREA.

EXPLODED VIEW OF SPRING BALANCER



HSB - 9 TO HSB - 75

SPARE PARTS LIST FOR HSB-SERIES SPRING BALANCERS

When ordering spare parts please specify index number and part name.

Index Nos	Name of Parts	HSB-9	HSB-15	HSB-22	HSB-30	HSB-45	HSB-60	HSB-75
1	Case	9001	9001	22001	22001	40001	40001	40001
	Suspension	9021	9021	22025	22025	22025	22025	22025
2	Suspension Hook	(CASING + SUSPENSION HOOK ASSEMBLY + MANUAL DRUM LOCK ASSEMBLY) (PARTS NO. 1 TO 11)						
3	Latch	-	-				-	-
4	Latch Spring	-	-		-	-	-	-
5	Round Rivet	-	-	-	-	-	-	-
6	Suspension Hook Shaft	9019	9019	22023	22023	22023	22023	22023
7								
8	Stopper Pin	9018	9018	22023	22023	40022	40022	40022
9	Stopper Spring	9016	9016	22019	22019	22019	22019	22019
10	Stop Ring Pin	PPS2.535	PPS2.535	PPS340	PPS340	PPS340	PPS340	PPS340
11	Split Pin Cap	9014	9014	9014	9014	9014	9014	9014
12	Stopper Lever	9048	9048	22054	22054	22054	22054	22054
13	Safety Stop Arm	9014	9014	22016	22016	22016	22016	22016
14	Hex Cap Screw	SHC512	SHC512	SHC612	SHC612	SHC612	SHC612	SHC612
15	Spindle	9009	9009	22010	22010	40010	60010	60010
16	Key			BB6004	BB6004	40012	40012	40012
17	Worm Wheel			22003	22003	40011	40011	40011
18	Ball Bearing			22008	32008	BB6004	BB6004	BB6004
19	Drum	9003	9003	22009	22009	22003	22003	22003
20	Self-Contained Spring	9008	15008	SH610	SH610	40008	60008	70008

Index Nos	Name of Parts	HSB-9	HSB-15	HSB-22	HSB-30	HSB-45	HSB-60	HSB-75
	Assly. Spiral Spring	-	-	-	-	-	-	-
21	Spring Case	-	-	-	-	-	-	-
22	Spring Case Cover	-	-	-	-	-	-	-
23	Bushing	9011	9011	22009	22009	40009	60009	60009
24	Hex Bolt	SH510	SH510	SH610	SH610	SH610	SH610	SH610
25	Hex Bolt	Not Required			SH68	SH62	SH62	SH68
26	Spring Washer	WS52	WS52	WS62	WS62	WS62	WS62	WS62
27	Casing Cover	9002	9002	22002	22002	40002	40002	40002
28	Casing Cover Bushing	9013	9013	22015	22015	22015	22015	22015
29	Hex Bolt	SH520	SH520	SH620	SH620	SH640	SH640	SH640
30	Cable Complete	9027	9027	22031	22031	22031	22031	22031
31	Washer	-	-	-	-	-	-	-
32	Lock (A)	-	-	-	-	-	-	-
33	Lock (B)	-	-	-	-	-	-	-
34	Rubber Shock	9036	9036	22040	22040	22040	22040	22040
35	Load Hook Complete	9029	9029	22033	22033	22033	22033	22033
36	Load Hook Latch	-	-	-	-	-	-	-
37	Load Hook Latch Spring	-	-	-	-	-	-	-
38	Round River (B)	-	-	-	-	-	-	-
39	Load Hook Shaft	9037	9037	22041	22041	22041	22041	22041
40	Cable set bolt	BSP1/ 8	BSP1/ 8	BSP1/4	BSP1/4	BSP1/4	BSP1/4	BSP1/4
42	Worm	9010	9010	9010	9010	40013	40013	40013
43	Gauge	9039	15039	22043	30043	40043	60043	70043
44	Gauge Screw	9038	9038	9038	9038	9038	9038	9038
45	Safety Device Pin	9017	9017	22021	22021	40021	40021	40021
46	Safety Device Spring	9016	9016	22019	22019	40020	40020	40020
47	Safety Device Spring Screw	9015	9015	22017	22017	40018	40018	40018
48	WIRE GUIDE							
49	WIRE GUIDE							
50	Hex Socket button bolt	Hex 19	Hex 19	Hex 22	Hex 22	Hex 22	Hex 22	Hex 22

OPERATING PROCEDURE

Selection of Suitable model (Refer to illustration of Fig. 1)

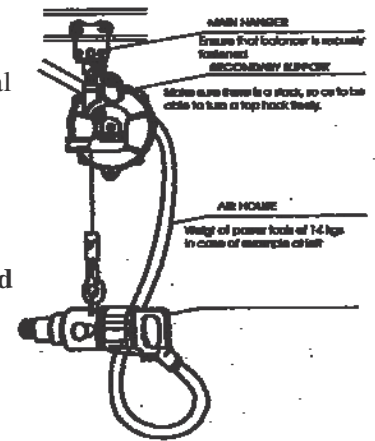
Select the correct model of spring balancer for the loading weight of suspension.

When selecting a balancer, first consideration should be given to the weight the total load to be balanced (tool plus cable hose plus other attachments).

Example:

$$\begin{array}{rclcl} \text{Weight of power Tool} & + & \text{Weight of Attachment} & = & \text{Weight of Total Load} \\ (14 \text{ kgs}) & & (3 \text{ kgs}) & = & (17 \text{ kgs}) \end{array}$$

Select the Spring Balancer Model **HSB-22** in the above case



In case the weight of total load is between maximum capacity of one spring balancer and minimum capacity of another spring balancer, for instance. When the total weight is 22 kgs,

It is better to select a bigger capacity spring balancer, Model HSB-30 (22 - 30 kgs in balance range) than HSB-22 (15 - 22 kgs in balance range). Otherwise may shorten the life of the spiral spring if smaller model. HSB-22 in this case is selected.

Manner of suspension

Make sure the following points, and suspend at the correct place :

- Ensure that the balancer is fastened securely.
- It must be in a position to operate smoothly, even if, the spring balancer be used in slanting position.
- Be sure to fit a secondary support chain or wire rope sling. (Make sure there is enough slack in secondary support chain, so as to be able to turn the top hook freely).
- Avoid possibility of colliding with another spring balancer, when installing two or more balancers on a trolley

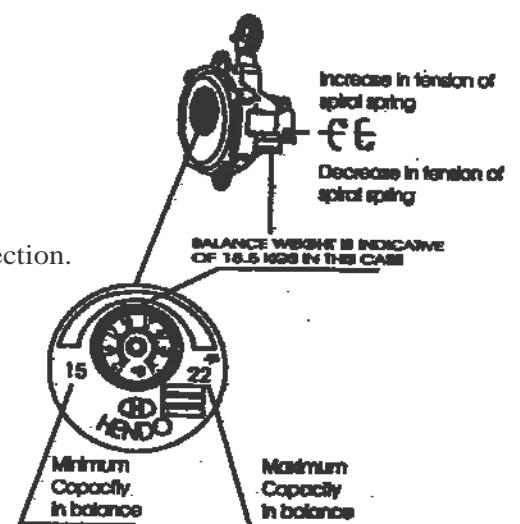
NOTE :- ALWAYS ENSURE THAT THE TOP HOOK, HOLDING THE BALANCER, IS FREE TO ROTATE.

Adjustment of Spiral Spring (Refer to illustration of Fig.2)

Adjust the tension of spiral spring to suit for loading weight and working condition by turning of worm.

Tension of spiral spring Increases when turning the worm clockwise direction. To decrease the tension of spiral spring for load in lesser weight turn counterclockwise direction. You can judge the approximate loading weight through the plastic gauge.

When supplying the products from factory, the tension of spiral spring is set at a medium position.



AVIOD ADJUSTING THE SPIRAL SPRING OVER OR BELOW THE RATED CAPACITY OF THE BALANCER. USE BALANCER ALWAYS WITHIN THE BALANCE RANGE. IF THE SPRING IS WOUND OVER ITS MAXIMUM CAPACITY. IT WILL SHORTEN THE STROKE OF THE CABLE AND DECREASE THE LIFE OF SPIRAL SPRING AND IF THE SPRING IS LOOSENED TO LOWER TENSION THAN MINIMUM CAPACITY, SAFETY DEVICE WILL ACT AND STOP OPERATION PREMATURELY.

Replacement of attached equipments (Refer to illustration of Fig.3)

1) The following procedure should be adopted, in the following order if it is necessary to replace any parts during operation of spring balancers,

- Pull all length of cable (wire rope) out of drum, and set stopper pin (8) at a groove as illustrated on fig. 3 and lock drum (19)
- After making sure of locking the drum, change attached parts,

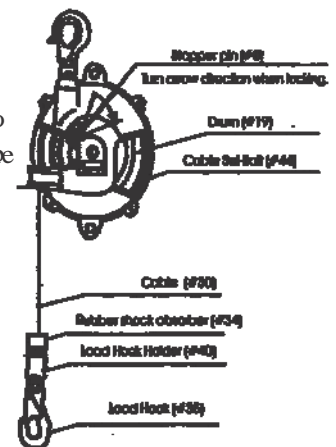
NOTE : IT IS VERY DANGEROUS TO ATTEMPT TO REPLACE ANY PARTS BEFORE MAKING SURE THE DRUM IS LOCKED BY THE STOPPER PIN TO PREVENT THE SPRING SNATCHING BACK. THEREFORE, DO NOT RELEASE MANUAL DRUM LOCK WITHOUT ATTACHING FULL LOAD.

If weight of total load to be attached afresh is different from previous equipment, re-adjust the tension of spiral spring anew.

DISASSEMBLING AND ASSEMBLING

Replacement of Cable (Refer to illustration of Fig. 3)

- Pull all length of cable (30) out of drum and set stopper pin (8) at a groove (move to position of arrow on illustration of Fig . 3), and lock drum (19.) In this condition, cable set-bolt (44) must be in the position of illustration as shown in Fig. 3.
- Take attached equipment off load hook (35).
(DETACH ATTACHED EQUIPMENT FROM LOAD HOOK AFTER MAKING SURE OF THAT THE DRUM IS LOCKED. OTHERWISE THERE IS A DANGER OF THE CABLE BEING PULLED SUDDENLY IF CONDITION OF LOCK IS INSUFFICIENT)
- Remove cable set-bolt and take out cable completely from drum.
- Remove load hook (35), rubber shock absorber (34), adjustable cable stop (52) and adjustable cable stop taper nut (53) from cable. And, exchange damaged or worn-out cable complete in reversed order of disassembly.
- Fix cable set-bolt. Mount equipment to be attached on load hook and release stopper pin.



DO NOT RELEASE STOPPER PIN PRIOR TO ATTACHMENT OF EQUIPMENT.

Procedure of Disassembly (disassemble in order of description)

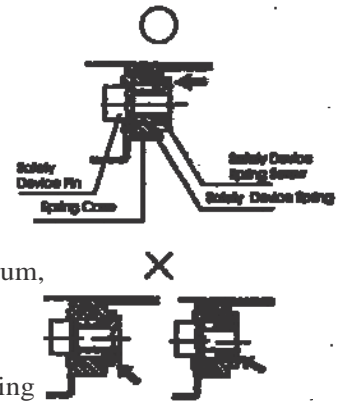
When the spring balancer is to be disassembled the procedure indicated below is recommended (refer to exploded of spare parts)

- Take attached equipment off load hook (35), And detach spring balancer from trolley or beam.
- Remove Gauge (47).
- Turn worm (46) counter-clockwise direction and loosen spiral spring (20) and remove worm.
(worm will come off case
(1) when spiral spring is loosened completely).
- Remove hex cap screw (14) and take out safety stop arm (13.)
- Remove cable set bolt (44), and take out cable (30) from drum (19.)
- Remove casing cover (27).
- Take spring case (21), drum (19) and spindle (15) simultaneously of case.

- Pull out spindle, and take spring case off drum.
- Pull out spindle, and take spring case off drum.
- Take bushing (23) and safety device pin off spring case.

Procedure of Assembly (Refer to illustration of Fig.4)

- Install bushing (23) into spring case (21).
- Install spindle (15) and spring case on drum.
- After making sure that stopper pin (8) is not at a position to drum lock, assemble drum, spindle and spring case into case and set casing cover (27).
- Install safety arm (13). Fasten hex cap screw 14 correctly.
- After installation thrust washer onto the end of worm (46), assemble worm with turning clockwise direction.
- Install cable (30). Fix cable set bolt (44).



Load and inspection of Operation

- 1) Turn worm clockwise direction and wind spiral spring.
- 2) Suspend spring balancer in position and adjust the balancer (adjust the tension of spiral spring).
- 2-1) Attach an equipment on the hook. (35) and adjust the tension of the spiral spring by turning the worm to take up the length to stroke of cable. (It is recommended to set the balancer at a medium position of tension on spiral spring.)
- 2-2) Install safety device pin (49). safety device spring (50) and safety device spring screw (51). The upper surface of the safety device spring screw should be adjusted to same level of surface of spring case.
- 2-3) Attach gauge (47), Adjust the indication of gauge with loading weight.

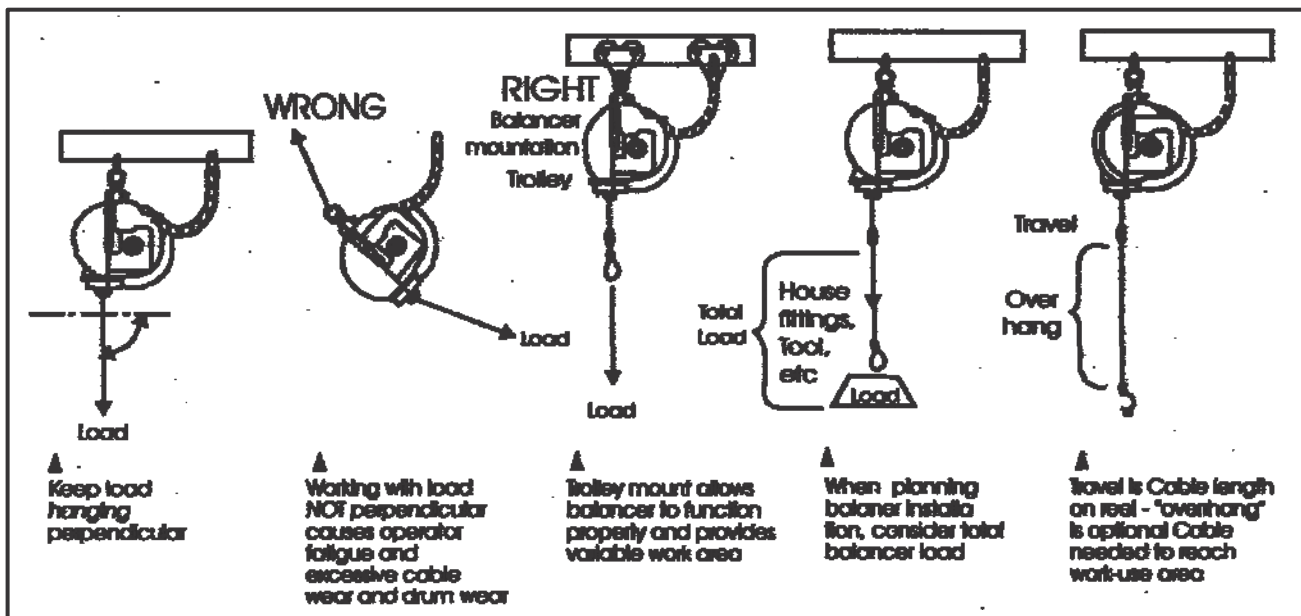
MAINTENANCE AND INSPECTION

For the purpose of preventing accidental falling, inspection should be carried out at least one time on a monthly basis.

- Make sure whether the bolts of the respective parts are not loosened.
- Make sure whether top hook and load hook are not worn-out or damaged.
- Make sure whether cable is not torn or worn-out. (take care to check a condition of tear, kink of wire rope and damages of locking part of end on cable).
- Make sure whether safety device is operated correctly.

In the event that any part of the spring balancer has broken or damaged, repair immediately through your maintenance or contact **HENDO INDUSTRIES IMMEDIATELY.**

TIPS ON USE OF BALANCERS AND SECONDARY SUPPORT CHAINS



▲ Keep load hanging perpendicular

▲ Working with load NOT perpendicular causes operator fatigue and excessive cable wear and drum wear

▲ Trolley mount allows balancer to function properly and provides variable work area

▲ When planning balancer installation, consider total balancer load

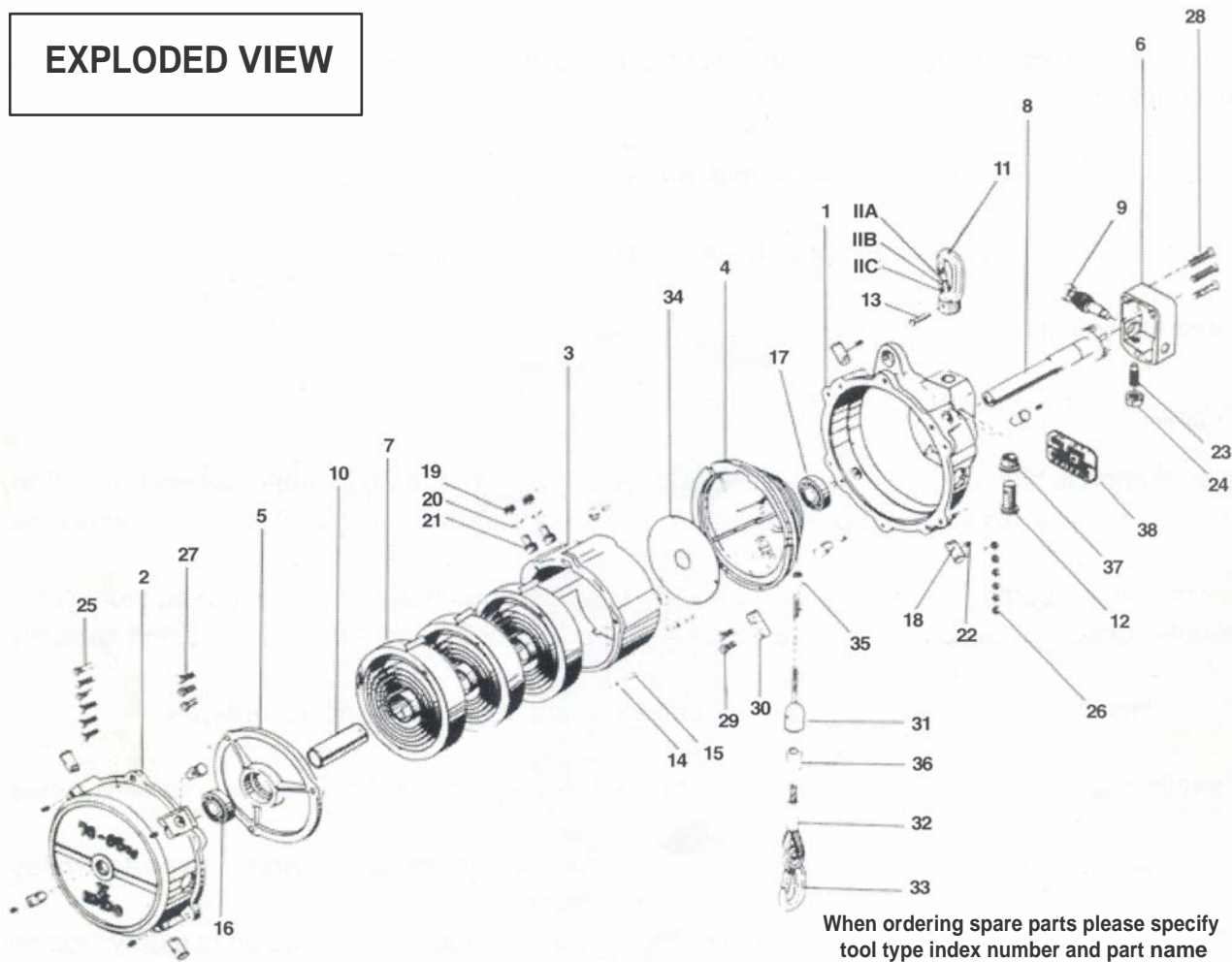
▲ Travel is Cable length on reel - "overhang" is optional Cable needed to reach work-use area

Hendo Industries also manufactures push pull trolleys of 125 kgs, 250 kgs, 500 kgs, 1000 kgs.



HENDO SPRING BALANCERS

EXPLODED VIEW



When ordering spare parts please specify tool type index number and part name

Index No.	Part Name	Material	Quantity	Index No.	Part Name	Material	Quantity
1.	Casing	Aluminium Alloy Casting	1	18.	Safety Stopper	Cold Finished Steel Bar	8
2.	Cover	Aluminium Alloy Casting	1	19.	Safety Nut	Rolled Steel For General Structure	2
3.	Spring Casing	Steel Casting	1	20.	Spring	Hard Drawn Steel Wire	2
4.	Drum	Aluminium Alloy Casting	1	21.	Safety Pin	Carbon Steel For Machine Structure Use	2
5.	Bearing Casing	Aluminium Alloy Casting	1	22.	Set Screw (M8X16)		8
6.	Worm Casing	Aluminium Alloy Casting	1	23.	Shrust Pin (W5/8X36)		1
		HSB - 100 to HSB - 140	3	24.	Hexagon Nut (W5/8)		1
		HSB - 170 & 220	4	25.	Hexagon Bolt (M8/35)		6
7.	Spiral Spring	Spring Steel IS 4454 GR-II	1	26.	Hexagon Nut (M8)		6
8.	Spindle	Carbon Steel for Machine Structure Use	1	27.	Hexagon Bolt (M8X25)		3
9.	Worm	Cold finished Steel Bar	1	28.	Screw (M10X50)		3
10.	Bush	Gray Iron Casting	1	29.	Hexagon Bolt (M10X25)		2
11.	Upper Hook	Rolled Steel for General Structure	1	30.	Wire Stopper Plate	Rolled Steel For General Structure	1
11A.	Safety Plate	Cold Rolled Carbon Steel Sheet	1	31.	Buffer	Nitrile Butadiene Rubber	1
11B.	Spring	Hard Drawn Steel Wire	1	32.	Wire Rope (8X1950)	Galvanised Steel Core	1
11C.	Rivet (4 X 13.5)		1	33.	Lower Hook	Rolled Steel for General Structure	1
12.	Hook Shaft	Cold Finished Steel Bar	1	34.	Under Plate	Cold Rolled Carbon Steel Sheet	1
13.	Rivet (8 X 36.5)		1	35.	Wire Stopper	Aluminium Alloy Rod Bar	1
14.	Turning Stopper	Rolled Steel General Structure	3	36.	Buffer Stopper	Aluminium Alloy Rod Bar	1
15.	Spring Pin (4 X 16)		3	37.	Hook Bush	Cold Finished Steel Bar	1
16.	Ball Bearing (6205)	STD	1	38.	Name Plate	Aluminium Alloy Plate	1
17.	Ball Bearing (6206)		1				

MODEL	CAPACITY		CABLE TRAVEL MTR.	WEIGHT Kgs.
	MIN	MAX		
HSB-90	70.0	90.0	1.5	25.0
HSB-110	90.0	110.0	1.5	28.0
HSB-140	110.0	140.0	1.5	32.0
HSB-170	140.0	170.0	1.5	35.0
HSB-200	170.0	200.0	1.5	37.0
HSB-220	200.0	220.0	1.5	39.0

HANDLING INSTRUCTIONS FOR HENDO SPRING BALANCERS

1. Before loading Spring Balancers with weight to be suspended check weight of tool and confirm with capacity of Spring Balancers
2. Normally Spring Balancers are set in mid range of capacity before being despatched.
3. Suspend Spring Balancers on upper hook (11) onto monorail trolley
4. Load tool weight on lower hook(33)
5. Check the effort required to pull down the load.
6. In case effort is high by inserting socket & ratchet turn worm shaft (9) in anti-clockwise direction. This will reduce tension on spring & help reduce effort required for pulling load downwards.
7. In case after inserting load on lower hook (33), the load goes down, then by turning worm shaft (9) in clockwise direction will enable increasing tension on spring thereby increasing capacity.
8. After adjusting the desired tension check the effort and satisfy yourself accordingly.
9. Monthly checks should be carried out on items like upper hook, lower hook and wire ropes.
10. Make sure safety chain is fastened securely onto Spring Balancer and overhead trolley.
11. In case of spring breakages safety lock pin (21) will come out and get locked on to safety stopper (18) thereby preventing load from falling down to the ground.
12. Kindly follow the above instructions carefully and in case of doubt contact us for further clarifications.
13. For dismantling of Spring Balancer take of load from lower hook, then take down spring balancer from trolley.
14. Insert socket onto worm shaft (9) and turn about 95 to 100 rotation in anticlockwise direction thereby reducing complete tension.
15. Pull out complete wire rope from drum pulley (4) and open hexagon Bolts (25) and take off body cover (2)
16. Take off bearing casing (5) and check for spring breakages.
17. To reassemble Spring Balancer reverse the process and after assembly turn worm shaft (9) in clockwise direction for 95 to 100 rotation.

SPARE PARTS LIST FOR HSB - 85 TO HSB - 200 - SERIES SPRING BALANCERS

When ordering spare parts please specify index number and part name.

Index Nos	Name of Parts	HSB-85	HSB-100	HSB-120	HSB-140	HSB-170	HSB-200
1	Case + Part No. 11,ABC 12,13,&,37	85001	85001	85001	85001	85001	85001
2	Cover	85021	10021	10021	10021	10021	10021
3	Spring Casing + Spring + Spring Bush	85031	40041	40041	40041	40041	40041
4	Drum + Part No. 29 To 36	85101	85101	85101	85101	85101	85101
5	Bearing Casing	85201	85201	85201	85201	85201	85201
6	Worm Casing	85221	85221	85221	85221	85221	85221
7	Spiral Casing	INCLUDED IN PARTS NO.3					
8	Spindle	85331	85431	85431	85431	85431	85431
9	Worm	85501	85501	85501	85501	85501	85501
10	Spring Bush	INCLUDED IN PARTS NO.3					
11	Upper Hook	-	-	-	-	-	-
12	Safety Plate	85701	-	-	-	-	-
13	Spring	INCLUDED IN PARTS NO.1					
14	Rivet (4x13.5)	-	-	-	-	-	-
15	Hook Shaft	85751	-	-	-	-	-
16	Rivet (8x36.5)	85801	-	-	-	-	-
17	Turning Stopper	85851	85851	85851	85851	85851	85851
18	Spring Pin (4x16)		85901	85901	85901	85901	85901
19	Ball Bearing (6205)	85901	85902	85902	85902	85902	85902
20	Ball Bearing (6206)	85902	85910	85910	85910	85910	85910
21	Safety Stopper	85910	85920	85920	85920	85920	85920
22	Safety Nut	85920	85925	85925	85925	85925	85925
23	Spring	85925	85930	85930	85930	85930	85930
24	Safety Pin	85930	85940	85940	85940	85940	85940
25	Set Screw (M8x16)	85940	85950	85950	85950	85950	85950
26	Shrust Pin (W5/8)	85950	85955	85955	85955	85955	85955
27	Hexagon Nut (W5/8)	85955	85965	85965	85965	85965	85965
28	Hexagon Bolt (M8x35)	85965	85975	85975	85975	85975	85975
29	Hexagon Nut (M8)	85975	85960	85960	85960	85960	85960

Index Nos	Name of parts	HSD-05	HSD-100	HSD-120	HSD-140	HSD-170	HSD-200
30	Hexagon Bolt (M8x25)	85960	85960	85960	85960	85960	85960
31	Screw (M10x50)	85990	85990	85990	85990	85990	85990
32	Hexagon Bolt (M10x25)						
33	Wire stopper Plate						
34	Buffer						
35	Wire Rope (8x1950)						
36	Lower Hook			INCLUDED IN PARTS NO.4			
37	Under Plate						
38	Wire Stopper						
39	Buffer Stopper						
40	Hook Bush						
41	Name Plate	85995		INCLUDED IN PARTS NO.3			
42	Worm Wheel						

JAS-ANZ



HENDO INDUSTRIES

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